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BUSINESS

\$83;

Gold up

Equities

subdued

● GOLD rose \$81 to a record close in London of \$3521.

• EQUITIES were subdued, but

rallied slightly near the close

and the FT ordinary index closed 1.7 down at 466.0.

• GILTS weakened, with losses

of a in longs. The Government

APR MAY JUN JUL AUG SEP

Securities index fell 0.49 to

o STERLING fell; sharply closing 1.7 cents down at \$2.1515 and its trade-weighted index fell to 68.4 (69.2). The dollars' index was unchanged at \$5.0.

• WALL STREET was 201 np at 883.11 just before the close.

• EUROPEAN COMMISSION

is preparing anti-dumping cases

against both Japanese and East

European manufacturers of bearings. Intensive monitoring

seeks retirement

· CHRYSLER chairman, Mr.

John Riccardo, has said he will ask the company's board to

grant him instant early retire-

ment so as to improve the

chances of the company secur-

ing Federal loan guarantees to stave off the threat of bank-

• BP CHEMICALS chief has

on to the European market.

 RENAULT group's engineering division has won a FFrs 230m (£24.27m) contract

to build a network of 23 lorry

service stations in Saudi Arabia.

• L'OREAL, the French cos metics company, bas launched a second hid for the U.S. com-

pany Helena Rubenstein. Page

MERRETT DIXEY Syndi-

cates, the Lloyd's underwriting agent, is to stop acting for the

troubled Sasse syndicate. Page

UNITED BISCUITS pre-tax

on sales up from £362.78m to

£402.84m, but directors expect

a better second balt. Page 18

raised pre-tax profits for the six months of 1979 from £6.31m to

£7.25m on turnover of £133.97m

(£109.34m). Page 21

SIMON ENGINEERING

6; Reforms likely Page 16

ruptcy. Back and Page 4

72

71

GENERAL

en igag.

Tories axe quangos

ment Secretary, announced the disbanding of 57 organisations in the first large-scale pruning But the scrapping of almost half the Department of Environ-

ment-sponsored quangos-quasi autonomous non - governmental organisations—will result in an immediate annual saving to the public purse of only £1.4m.

Mr. Heseltine named a further batch of 21 quangos to be scrapped "in due course." Most of these are New Town bodies which are; in any case, due to be wound up when their powers are transferred to local authorities. Page 6

Swedish election result tentative

Olof Palme, the Swedish Social Democrat leader, will not know until tomorrow wbether he can return to the Prime Minister's office from which he was ousted fhree years ago. About 38,000 uncounted postal votes and 2,000 ballot papers from Swedes abroad may still deny bim the narrow victory he appeared to bave won in Sunday's general election. Page 2; Editorial comment Page 16

Death claim

Afgbanistan's former President
Tarakki an dtwo sacked Cabinet
Tarakki an dtwo sacked Cabinet
To per cent with retail prices
gun battle inside the Presi
dential values two days before Price 2 ministers may have died in a rising by gun battle inside the Presi-according dential palact two days before Page 2 Tarakki's resignation was announced, according to diplomats in Kabul. Page 3

Treasure probe

The UN diplomat in charge of aid to referees in Cyprus offered to resign after police seized valuable antiquities from his Nicosia bome But the UN High Commissioner for Refugees in Geneva ordered a full inquiry before reaching a decision.

Peking poster call The staff of China's most radical

unofficial magazines, Exploration, stuck a poster on Peking's-Democracy Wall urging the Government to avoid further classics with Vietnam or the

Race row fears

A bus boycott by thousands of black workers in Natal, protesting against fare rises, spread to the outskirts of Durban, with fears that the peaceful demonstration could easily become

Police taunted

Jacques Mesrine, the elusive French criminal, tannted police by supplying photographs of his latest rictims downwarfs to the property of the p latest victim, a journalist, to the newspaper, Le Matin, in aPris. They showed the man lying naked an scarred, with fresh bullet wounds in a disused

Typhoid suspect

Police were still searching for Yunus Karakukulah, also known as Mustapba Yelderim, a Turkish chef who disappeared from a South London kebab bouse after tests for typhoid. Further tests and needed to give him a clean

bill of bealth. Briefly ...

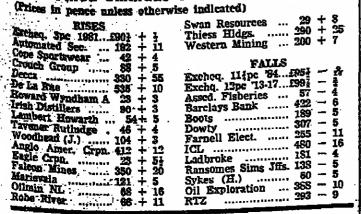
Customs mon and police seized 14 tons of cannabis resin worth nearly £2m after a sea chase off the Cornish coast

Louden Transport reached agreement with the rail unions on the introduction of one-man train operation on two of its Underground lines. Back and

U.S. Navy vessels landed 65 Victnamese at Subic Bay in the Philippines and aircraft spotted nine more adrift in an open

Can released the last four U.S. citizens, held on political charges since the mid-1960s.

CRIEF PRICE CHANGES YESTERDAY



New talks today in bid to end engineering dispute

BY NICK GARNETT AND ALAN PIKE

The first formal negotiations for more than two months in the national engineering dispute take place today after preliminary discussions yesterday at the Advisory Conciliation and Arbitration Service.

The two sides agreed in those some conditions on further looked more bopeful than at the discussions on an agenda for industrial action to any new weekend. today's meeting, which involves offer they might wish to make The question of a 39-bour talks again under the auspices today. This could be a further of ACAS, on minimum pay source of delay to a settlement. of ACAS, on minimum rates, ways of implementing any new agreement and the "length threat to shut all its nine plants and lay off its total 30,000 and lay off its

cations that the unions might be dustry returns to normal work-prepared to take a more flexible ing. This followed overwhelmviaw on sborter hours than the demand for a 39-hour week in the claim.

Union officials emphasised that there must still be some form of specific reduction in working hours, and that an offer of improved holidays, already part of the claim, would be insufficient to reach a settlement on this matter. Employers bave ao far been

adamant that they will not reduce the working week.
The unions considered that
the employers' apparent decision not to make endieng of industrial action a pre-condition for further negotiattions was a

step forward.

ing adherence by workers to the first day of the third two-day national strike.

The company said it could not operate any of its plants commercially because of the dispute, and Mr. Dennis Head, managing director of the aerospace division, said the company had, "very real fears" of losing orders to competitors.

Today's strike again received overwhelming support in almost all areas of the country. Groups of workers who decided to defy the strike, including those at Plessey's Swindonplants, were relatively small.

After yesterday's talks Mr.. There were signs that nego-tiators for the Engineering Amalgamated Union of Engin-offer £73 or £74. Employers' Federation might tie eering Workers said the position AUEW confer

The question of a 39-bour week was now "in the melting pot." He referred to the need to accure a 46-hour reduction in the yearly "working time."

In his address at the opening of the AUEW national confer enc ein Eastbourne before the ACAS talks yesterday, be again stressed the need for a reduc tion in working time.

"It is imperative that we adopt the simple trade union principle of ensuring that manbours available are shared whereever possible.

"It would appear that we are leading the struggle to maintain a fair and equitable society, but it also seems that the employing class are determined to intro duce new techniques with no reduction in working time."

On pay, the unions bave sought a minimum craft rate of £80, and been offered £70 and pro rata increases for other Union officials believe employers might be prepared to

AUEW conference, Page 8

Big shortfall in Britain's energy supplies predicted

BY RAY DAFTER, ENERGY CORRESPONDENT

of bearing prices in Western BRITAIN'S energy supply Europe has shown a 35 per cent problems towards the end of the margin on Japanese roller bear-century will be far greater than problems towards the end of the century will be far greater than previously forecast, according to a new Government report. ings entering the EEC. Back A fresh review of the energy balance shows that by the end of the century the UK could be Chrysler chief

importing the equivalent of 105m tonnes of coal a year. This is a ignificant shift from the Government forecast made only last year that indicated Britain could still be energy self-sufficient in the year 2000. It was thought that even on the worst assumptions imports would not rise above the equiva-

lent of 45m tonnes. The new figures are presented by the Energy Department in its evidence to the public inquiry into the National Coal Board's plans to sink three large mines i nthe Vale of Belvoir, in

warned that profits could be hit bard by a flood of cheap U.S. petrochemical imports coming North-east Lelcestershire. investment in new coal mining capacity, colliery production in

motor components, Unigep, marking GKN's entry into the automotive business on the Continent. Back Page

IN THE YEAR 2000 (m tonnes of coal equivalent) SUPPLY: 1978 estimate-Nuclear/hydro Natural gas Indigenous oil Renewable sources

UK ENERGY BALANCE

SUPPLY: 1979 estimate-385-410 Total DEMAND: 1978 estimate-Total

DEMAND: 1979 estimate-445-515

rent level of around 120m tonnes a year. Towards the end of the century output could be as low as 80m tonnes.

It is thought that the Governmajor reason why it sees Britain'a domestic energy sup-1990 would fall below the cur- ply in the year 2000 falling

below the levels foreseen in the Energy Policy consultative document, published by the Energy Department last year. The 1978 Green Paper

reported that .UK energy demand could be between 450m and 560m tonnes of coal equivalent a year in 21 years. The Eoergy Department's sub-mission to the Belvoir inquiry indicates that the demand might not rise above 445m to 515m tonnes of coal equivalent.

The new forecasts are much more pessimistic over domestic supplies of fuel. The Depart ment doubts whether indigenous production can supply more than 385-410m tonnes of coal equivalent as against the 475-515m tonnes foreseen in the Green Paper.

It is thought that about half of the drop in forecast output is The Dapartment warns that ment's more cautious view of accounted for by lower coal pro-without early and continuing coal industry expansion is a duction; the other balf from less-than-expected crude oil out-

Editorial comment, Page 16

Telephone charges to go up

TELEPHONE charges will rise by the Post Office Users' Private circuits, where substantial losses have been made on the shorter distance circuits, where substantial losses have been made on the shorter distance circuits, where substantial losses have been made on the shorter distance circuits, where substantial losses have been made on the shorter distance circuits, where substantial losses have been made on the shorter distance circuits, where substantial losses have been made on the shorter distance circuits, where substantial losses have been made on the shorter distance circuits, where substantial losses have been made on the shorter distance circuits, where substantial losses have been made on the shorter distance circuits, where substantial losses have been made on the shorter distance circuits, where substantial losses have been made on the shorter distance circuits, where substantial losses have been made on the shorter distance circuits, where substantial losses have been made on the shorter distance circuits, where substantial losses have been made on the shorter distance circuits, where substantial losses have been made on the shorter distance circuits, where substantial losses have been made on the shorter distance circuits, where substantial losses have been expected on the shorter distance circuits.

The first stage takes effect for some time, but there is certain to be some discussion on whether the October minor increases, will bring in some film in the current year, of the committee of the shorter distance circuits.

circuits. The rise in connection cbargea will be weighted toward business users. Tha second, and major, stage, takes effect from January 1, and will include call charges, rentals, and coin box tariffs.

The rises will be tha first for most services since 1975. They are designed to cover the effects • Connection charges for of inflation since then, and are profits for the 28 weeks to July 14 fell from £18.6m to £16.1m not related to the recent industrial action by computer operators, which prevented Office revenue flows. The rises will be considered year, it lost £14.3m.

an existing installation will go up from £5 to £8.

apparatus will go up on average by 53 per cent, with the sharper increases—up to 120 per cent charged on business apparatus. telephone bills being sent out. Telex charges will go up by and adversely affected Post 20 per cent in an attempt to maka the service profitable. Last by a maximum of 50 per cent,

Office not to make major rises

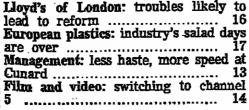
of the commitment by the Post and £81m next year. The main January increases

The main October rises are: Call charges will go np from Charges for new exchange 3p to 3.5p per unit, an increase lines will go up from £45 to of 17 per cent. The higher unit £55. The charge for taking over fee will apply with existing time allowance

Rental charges for at exchange lina will go np by £6 to £45 a year for a business line, and by £5 to £38 a year for a residential line. In spite of the increases, rentals will continue to run at a loss. Apparatus rentals will go up

Continued on Back Page

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Carrington in move to save

Sterling slide continues

By Peter Riddell, Economics Correspondent

agains the\$

STERLING fell sharply yester-day against other leading currencies fo rthe sixth trading day in succession. The authorities in London appear fairly relaxed abont the decline and no action

is being considered.

There is, bowever, some concern about the size of the movements during the day, as opposed to the extent of the overall change, and there bas been regular smoothing intervention to allow commercial business to be done in as

orderly a way as possible.
The pound at one stage terday bad fallen by more than four cents in a few bours to a low of \$2.1260, more than 12 cents lower than at the beginning of last week. Dealers reported buying after

the New York opening and in two-day trading the rate rose to close 1.70 cents down at \$2.1515. The trade-weighted index tonched a low of 67.8 at noon before closing 0.9 points down at 68.4. The fall since early last week was 41 per cent and 71 per cent since July.

These falls have only partially offset the big mid-summer appreciation and the pound is still higher than it was on the Budget day, June 12.

The recent decline can be explained by a delayed reaction to the earlier widespread feeling that the pound bad risen the more imediate impact of a narrowing in the interest rate gap between London and other centres, especially New York. There has also been some switching into D-marks caused by speculation both about a realignment of currencies within the European Monetary System and about early UK

participation. It is highly un-likely that sterling will join in Continued on Back Page Monyey markets, Page 25 Lex, Back Page

f in New York Sept. 14

circumstances However, Lord Carrington's clearly failed to

Rhodesia talks BY BRIDGET BLOOM AND MICHAEL HOLMAN

He bas formally decided to open separate talks with the two rival groups because pre-liminary discussion yesterday of the main constitutional pro-posala is now deemed complete.

However, the main reason for his decision appaared to be the effect on the conference of the growing split between black and white members of the Rhodesian Government delegation which last night threatened to deadlock the whole settlement attempt.

The talks entered their second week yesterday with two full working sessions, but Bishop Abel Muzorewa'a delegation, though present, took no part at all in the afternoon deliberations The critical problem is that

Mr. Ian Smith, the former that a white parliamentary veto, accompanied by dominance of the public service commissions, la the only effective safeguard for the white minority in a new independence constitution.

It is increasingly clear that this view is sbared neither by Bisbop Muzorewa, nor by most, if not all, of the other black members of his delegation.

Failure to resolve this dispute in splte of intensive discussions over the weekend left the Salisbury delegation playing a muted role at yesterday's talks.

Safeguards ...

The Foreign Secretary, in both the morning and afternoon sessions, repeated British objec-tions to key aspects of the Rhodesian settlement constitution. He opposed particularly the veto accorded the 28 while members of the 100-seat Parllament and the powers whites enjoy in the public service

commissions. No other African Independence constitution contained sucb provisions, although Lord Carrington acknowledged that there should be minority safe-guards including white parliamentary representattion and a

Blill of Rights. He also challenged features of the Patriotic Front's outline constitutional proposals, particularly their failure to provide for white members of Parliament, which be believed was necessary in Rhodesia's special

LORD CARRINGTON, Foreign reassure white members of Secretary, will today begin hilateral talks with the two opposing Rhodesia delegation in an effort to save the Lancaster House constitutional talks from

Morning and afternoon session were both concerned with a point-by-point examination of the likely areas of disagreement on a new constitution. But it was clear that without the participation of the Salisbury delegation, no real progress could be made.

Hisbop Muzorewa's delegation wanted the conference to move to bilateral talks with Britain, partly to keep the internal disansions out of tha public eye, but also to allow Mr. Smith to test for himself Britain's determination to divest whites of their political veto.

Concessions

Yesterday's session for the first time covered issues of constitutional substance. emerged, for example, Rhodesian Premier, still insists Britain will consider the Patrio tic Front's proposals that Rhodesia should be a republic with an executive president. Other areas of certain future conflict were the role of whites in Parliament and in the service commissions.

The lesson from yesterday's session was apparently that no real progress is posible until the Salibury delegation decides wbat concessions it is prepared to make.

They key question last night was whether or not Mr. Smith's hard line views are fully sbared by his white colleagues both in London and in Salis-

Mislead

at the Battle of Britain commemorations at the weekend was "regretted" last night by Mr. David Steel, Liberal Party leader.

He said: "It was likely to mislead us as to what it was all "It was not just about our

alde meeting the others. It was about the maintenance of a free and democratic society, and against the threat of takeover of our country by an alien minority imbued with ideas of their own superiority. "Sadly, it was Mr. Smith's

lack of atachment to these principles which led his country first into the treachery of UDI and then into the tragedy of the present bloody war there." Men and Matters. Page 16

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£150m EEC loans will boost jobs, investment

THE FIRST loans from the EEC's new 1bn units of account (£640m) lending facility. intended to aid investment and reduce unemployment in the community, were announced

here yesterday. Britain will receive £66.3m of the almost £150m disbursement in the initial rounds of loans. Most of it £50m, will be lent to the Electricity Council to belp finance a £420m hydroelectric power station at Dinorwic, North Wales.

The remainder, £16.3m will be loaned to Lothian Regional Council to help finance projects worth £76m to improve water supplies in Ediohurgh and Midlothian and to reduce pollution in the Firth of Forth. Both loans have a 15-year term.

Ireland will receive £58m towards electricity, water, road-building and telecommuni-cations peojects. The rest of the loans, worth L45bn will be made towards water supply pro-jects in southern Italy.

The lending facility, whose official title is the New Community Instrument for Borrow ing and Lending, is intended to supplement financing available from other EEC sources in selected sectors.

It was first proposed by the European Commission in April, 1977. In approving it, the Council of Ministers directed earlier this year that the first tranche of loans, worth 500m units of account should he for infrastruclure development and energy

Borrowings to fund the loans will he raised on the capital markets by the commission, which rules on the elicibility of loan applications. Interest rates and nther terms applying to loans will be comparable to those required by the European Invest-

Finns plan balanced budget

By Lance Keyworth in Helsinkl THE FINNISH budget for 1980 promises something for every-one, but not enough to satisfy anyone except perhaps the The contrast between Herr farmers. It is balanced at Späth and bis predecessor, Herr FMKS 48.9bn t£5.7bn) with the aid of FMKS 5.5bn in loans more clear cut. Herr Filbinger which the Government proposes to raise at home and abroad.

The main target is to reduce unemployment from the current 6.5 per cent to a maximum purpose, Mr. Ahti Pekkala, the Minister of Finance, proposes to use, directly and indirectly, about a sixth of total budgeted

The need to keep inflation down to its present level of 7.5 per cent is also stressed. In order to eocourage the unions tn agree moderate wage settlements at the turn of the year, personal income tax, wealth tax and deductibles are to ba adjusted by 7.5 per cent to match inflation.

The turnover tax concessions for productive investment are to be prolonged until the end of

These reliefs will be neutralised by the increase in employees pensions premiums to be paid by employers, a 7.5 per cent increase in railway tariffs and a rise in excise tax on liquid fuels.

The economic forecasts attached to the budget indicate a distinct deceleration of growth rates in 1980. Cross national product will grow by 4 per cent against a 1979 estimate of 7 per cent, exports by 3 per cent in volume and 8 per cent in value, against 9 and 15 per cent fore-cast for this year. The correspooding figures for imports are 12 per cent (against 15) per cent. 21 tagainst 32) per cent. The balance of trade is listic union movement. The expected to show a deficit of Christian Democrats have com-FMKS 2.5bn (£291m) compared mitted themselves to the right with a surplus of FMKS 1.4bn of unionists to choose the union (£162m) in 1979.

APEL TELLS WASHINGTON TO SPEED UP OFFSET ORDERS

West German warning on AWACs

BY ROGER BOYES IN BONN

THE controveralal airborne warning and control (AWACs) scheme for NATO could be doomed unless Washorders to German industry, Herr Hans Apel, West Ger-many's Defence Minister bas warned the U.S.

Herr Apel said in a radio interview that he intended to meet Mr. Harold Brown, U.S. Defence Secretary, and Congressional leaders at the end nf september, to discuss the future of the scheme.

The AWACs aircraft is in effect, a converted Boeing 707 airliner. NATO plans to use it

between the NATO allies. Under of freezing the whole pro- weapons capabla of striking the tha accord, the U.S. and Weat gramme, which envisages the Soviet Union.

HE HAS the respect of Chancallor Helmut Schmidt-but be-

leader. He made a career in

but urges the individual, above

all, to stand up against bureau-

Even many West Germans

just over a year, at age 41, one of a new generation of Cerman provincial leaders. It seems safe to predict that what

ever happens to Herr Strauss,

the Federal Chancellorship in next year's elections, Herr Spath

has a bright future.

who is opposition candidate for

The contrast between Herr

Who is he?

Germany agreed to pay almost two-thirds of the total cost. But In return for German participation, the U.S. promised ington speeds up its offset it would place orders for a new telephone system for its forces in Germany and would buy about 9,000 vehicles

Congress has yet to approve the offset element, and the U.S. bas so far only placed orders for about 300 vehicles. The delays have irritated the Christian Democrat opposition which has threatened to block the DM100.4m (£24.6m) funds allocated for the scheme in 1980 unless some progress is made on the offset orders.

A \$1.88bn (£839m) agreement on the scheme was reached last year after lengthy negotiation between the NATO allies. Under the accord, the U.S. and West.

The rapid rise of a new

Christian Democrat star

BY JONATHAN CARR IN BONN

top speed.

He has not only removed

The key aim must be to drive

people, instead of crying for mora cash or facilities from above, are prepared to take on more responsibility. This is the

longa to an opposing political He has not only removed party. He quotes Mrs. Margaret many of Herr Filbinger's old

Thatcher's conservative philo- guard but bas attacked a jumble

sophy with approval—but plays of laws and regulations he feels tennis with a local trade union are no longer needed.

local and state administration— back the role of the state, but but urges the individual, above that can only be achieved if

purchase of 18 aircraft by the NATO countries.

freeze could eventually jeopardise the long-term future of AWACS. The offset component AWACS. The offset component weapons huild-up (especially had played an important part in the SS-20s), it is reluctant to persuading the Germans to take bave "Eurostrategic" weapons on a 30.7 per cent participation. Even so, doubts persist about reaching the USSR-stationed the overall costs of AWACs-including spares, training support and operation. The Iranian can-cellation of seven AWACs air-craft has increased unit costs

for Boeing which has had to shorten its production line. Herr Apel and Herr Dietrich Genscher, West German Foreign to create a permanent airborna
to create a permanent airborna
The Government now appears
The Governmen

The attitude of the Benelux countries is particularly impor-Herr Apel made clear that a tant for West Germany because although it wants a counter-balance to the Soviet nuclear -nuclear missiles capable of

on its soil. It has made clear that other West European countries will also have to accept the station ing of these missiles before it makes a commitment.

No immediate comment nn the outcome of the talks was forthcoming but the issue is so delicate for both Bonn and the other West Eucopean countries that a firm decision is unlikely to be announced before the NATO summit in December.

Officials stress that meanwhile, intensive diplomatic contacts will have to be made between Bonn and its allies.

Herr Lothar Spath . . .

election—took place in Stutt-gart. It is also true that Herr Spāth has all along been st pains to ensure that, whatever happens, the two parties should not angrily go their separate ways, as bas at times seemed possible.

Either, he says, Herr Strauss will push Chancellor Schmidt into adopting policies-for example, on defence and nuclear matters—which the Chancellor's own Social Democrat Party will not accept. Or else Herr Schmidt will yield to party presusre and Herr Strauss will bave a good chance of exposing the Government's policy

That, at any rate is the theory belped open the way to Herr Herr Spath naturally did not Strauss as the opposition's suggest that the Chancellor

might well steer a reasonable Third, the State's strength policy course and carry his party with him. But even if Herr Strauss loses, Herr Spath will bardly be blamed. On the contrary, it is likely that Herr Spath's own state success will stand out sbarply as the Christian Democrats set about the

task of finding a new national leader to replace Herr Helmut It is no secret that one of the Kohl, their present party chairman. That does not necessarily mean he will become CDU "king"-but be will be perfectly placed to act as "king-maker."

> and Essen on Saturday, Herr Strauss bad to curtail his speeches after several thousand demonstrators—including some tackled. SPD politicians and unionistschanted protests and pelted the CSU leader with eggs. The

Christian Democrata are demanding an explanation from The SPD meanwhile appears to have heen consolidating its links with the union movement and the Government recently

Gains likely by Norwegian Conservatives

OSLO-Norway'a Conservatives, rejoicing over their Swedish colleagues advances in parliamentary elections, were hop-lng to make big gains in local polla yesterday.

Tbree million vuters chose municipal and county council members in the two-day alections, results of which were due late last night.

unemployment, the environ ment, oil drilling and housing bave dominated the cam-Mr. Erling Norvik, the Conser-

vative chairman, and Mr. Ivar Leveraas, the Labour Party secretary-general, bave both said they expect the Conservatives to make gains, al-though opinion polls still put them behind Labour with 30-34 per cent of votes against

FINANCIAL TIMES, published daily except Sundays and holidays. U.S. subscription rates \$385.00 per annum. Second class portage oard at New York N.Y. and at additional mailing

Poll result in Sweden post votes

By William Dullforce In Stockholm THE SWEDISH Social Democrat leader Mr. Olof Palme, will not know until tomorrow whether he can return to the Prime Minister's office from which he was ouated three vears ago.

hangs on

Some 38,000 uncounted postal votes and 2,000 ballot papers from Swedes living abroad can still deny him the narrow victory he appears to bave won, with the Communists help, in Sunday's general election.

Even when the final count is in, the result may well dictate that a new election be held after the national referendum on nuclear power due in the

After a dramatic election night during which the computers switched the lead seven times between the Left-wing parties and the non-Socialist bloc. the very last commune to report tipped the scale in favour of the Social Democrats and Communists.

hey bave, provisionally, 175 Riksdag members against 174 for the Moderates (Conservatives), Centre party and

The non-Socialist parties scored just over 2,000 votes more than the left-wing parties in an election in which more than 90 per cent of the 6m electorate turned out. Each bloc took 49.2 per cent of the

The postal votes to be counted tomorrow will be decisive.
Nobody is sure how the
38,000 wbo posted their
ballots on Sunday have voted, but to judge from the last election they could well include a majority for the non-Socialists. Swedes living abroad are expected to vote

anti-Socialist.

The election bas been a triumph
for Mr. Gösta Bohman, the leader of the Moderates, who bave replaced the Centre party as the largest non-Socialist party.

scale, the Communists bave had their hest election in 30 mentary seats. Mr. Palme's Social Democrats also gained three Riksdag places, but after their vigorous and highly organised campaign, this advance represents only half a success.

Ar. Palme bas already indicated that, if the final count years, winning three parlia-

Mr. Palme bas already indicated remains in his favour, he will form a minority Social Democrat Government. But he would be more dependent than in his previous Premicr. ships on a resurgent Com-

evén greater. Nelther the centre party nor the Liberals will accept Mr. Bohman as Prime Minister.

t would be odd if Mr. Thörbjorn Falldin, the Centre party leader, were to resume the premiership he left last October after his party had just lost 22 of its Riksdag

Mr. Ola Ullsten, currently beading the Liberal minority cahinet. would gladly stay in the Prime Minister's office, but he leads the smallest non-Socialist party which made no peogress in the election.

Mr. Bohman, atressing that tha economic aituation called for a atrong government, was tha first to moot the possibility of a new election next year. Mr. Ullsten also appeared vesterreferendum next March. Then. he said, the energy issue bad to be solved quickly, so that economic problems could be

follows, with the change from the 1976 election in parentheses: Moderates 72 (+17); Centre party 64 (-22); Liberals 38 (-1); Social Democrats 155 (+3); Communists 20 (+3).

Party leaders predicted a aet-back for the ruling Labour party and tha Cente (Agrarian) party,

paign.

Reuter

Italian inflation rate climbs back to 15%

BY RUPERT CORNWELL IN ROME

INFLATION IN Italy is back to an annual rate of over 15 per cent according to figures rcleased yesterday. The news comes against a background of more widespread strikes in the public sector.

According to ISTAT, the national statistics institute, retail prices rose exactly 1 per cent in August, an unusually high seasonal jump which hrings the year-on-year increase to 15.5 per cent for the first time in almost two years. The portents for the coming

months are not encouraging. The latest figures do not take account of the petral and heating fuel increases decreed by the Government at the weckend, while electricity and other public sector tariffs have risen, or are about to go up.

It is widely feared here that inflation might now reach 17 or even 20 per cent by the end of 1870 compared with just under

1979, compared with just under 12 per cent for ealendar 1978. The one day strike yesterday hy more than 150,000 urhan and

local transport workers brought traffic chaos to major cities. The three main unions which called the stoppage have warned that further one-day protests are likely unless the men's outstanding wage contract demands are met. Today and tomorrow will see fresh disruption, this time in

the education system teachers hold mass meetings to coincide with the re-opening of Italian schools after the folian schools aff summer holidays.



Pertini, the Italian President today begins a five-day state visit to West Germany, during which he and Sig. Franco Maria Malfatti, the Foreign Minister, will hold lalks with President Carstens and senior covern ment ministers and politicians,

It is the first visit by an Germany for some 15 years. The Italian delegation is expected to take the opportunity of pressing Rome's demands for more equitable treatment by the EEC in the regional and agricultoral

Ireland facing power cuts for Papal visit

BY STEWART DALBY IN DUBLIN

IRELAND IS facing the possi- mechanical problems in such

that, if the final count due to arrive on Seplember 29. The fitters who number several dozen, have been companies, broadcasting the arguing about pay increases visit to the rest of the world, averaging £16 a week on basic. The Government has suffered salaries of between £65 and £80

munist party.

Talks have recently bruken petrol shoringe, and a lax down, and the fitters, members revolt. It can ill afford power of the Natinoal Engineering and cuts at a time when the world their favour, are possibly a refusing to do welding work.

Details of security for the will be watching the pope. which is essential to the upkeep visit are beginning to emerge of turhines and boiler tubes at power stations. They have also a five-mile radius of the centre banned overlime and move of Dublin on ments between stations. Immediate power cuts are not is to bold his untdoor Mass for

expected, but an accumulation possibly im people in the of unrepaired breakdowns could capital's Phoenix Park. All lead to substantial cuts by

September 29.

latest reports.

industrial demand for power is low. There will, however, be extra demand from television considerable ban publicity this-

year because of a post strike. All traffic will be hanned within September 29, when the Pope

leave for the \$,000-strong Gardai (police) has over The main worry is that cancelled.

Swedish industry outlook continues to improve BY WILLIAM DULLFORCE, NORDIC EDITOR, IN STOCKHOLM

SWEDISH industry's deliveries by 17 per cent and orders by and order intake continue to 11 per cent, compared with the grow, while its cash and short same period last year. term money position has considerably improved. However, industry here is still not showing any firm disposition to invest according to the Statisti-cal Central Bureau's three

The first ahowa that in July, Industrial deliveries were 16 per cent higher in fixed prices than in the same month last year. while the inflow of new orders cose hy 21 per cent. Value of order books at the end of July waa 19 per cent up on a year hefore.

Despite the rising demand for

Swedish companies producta, their total orders remain well below tha level reached in the 1973-74 boom, the bureau says. Against this, the figures show that the long-awaited engineering recovery appeared to have got under way during the three months to the end of July. Engineering companies, excluding shipyards, boosted deliveries

At the end of June, industrial enterprises' liquid assels were 18 per cent up on a year earlier.

But a survey in August showed no increase in companies' intention to invest. At current prices, Swedish industry expects to invest more than Skr 14.3bn (£1.5bn) this This represents an

advance of about 10 per cent 00 last year hut is still far below the investment level reached in The iron and steel companies are signalling larger investments and improvements are

chemicals and engineering. But pulp, paper and timber mills foresee reduced capital spend-Preliminary indications for 1980 suggest that industrial in-

vestment will increase but is not likely to show any great

Hamburg homes evacuated after war poisons found

Hamburg around a disused chemical factory was evacuated vesterday, after bundreds of tons of highly poisonous chemicals and explosives, dating back tn World War II, were found. Nearby factories WCTC

their homea in the auburb of Eidelstadt, , Special troop units wearing

gas masks and heavy protective clothing searched the building after a number of grenades containing polsonous chemicals, 70 tons of poisonous chemicals and 400 tins of sine sludge used in the manufacture of explosives bad been found on the

Troops are being allowed in spend only one hour in the factory at o time. Those resi- found on Sunday.

today, police said. The explosives were first

nf the chemicals. His brother and a friend were severely ln jured. Officials said the evacuation was necessary because chemi-

released during the scarch. A Hamburg City spokesman sald work had continued at the factory on a small scale until twn years ago, but during the

last few years it had been

The most dangerous chemical found so far is a German nerve gas known here as "tabun." The spokesman said cight green ades containing tabun hod been

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would be hard put to give an message he has been driving home in a series of whistle-stop visits throughout the atate, and answer. Which is odd, since this apparently contradictory figure has already played a key cole

in narrowing the differences hetween his own Christian Democrat party (CDU) and its Bavarian ally, the Christian Social Union (CSU) led by the The 41-year-old Prime Minister of Baden-Württemberg could emerge as abrasive Franz Josef Strauss.

He is, in fact, Herr Lothar
Spāth, Prime Ministar of the
state of Baden Württemberg for king-maker, if not king, of the opposition

through radio and "phone-in-"

Not everyone is happy about the aims or the style. A small booklet inspired by Herr Spath. telling administration officials bow they could improve relations with the public, aroused ire among many to whom it was addressed. more clear cut. Herr Filbinger what be is talking about—as was the prototype of a German "Landesvater" — guiding his people with a skilled band but with some apparent condescension from his office in the hills

Filbinger stepped down because parliament in 1968 so his proof-the discovery of his activigress had been quick indeedtles as a Naval judge under the chairman of the CDU parliamentary party for six years from 1972, State Interior Minister in Nazis towards the end of the Second World War. 1t would be February last year and elected more correct to say that he lost the state Prime Ministership state Prime Minister in August, defeating a candidate whosa because be seemed unable to bring bimself to show remorse for his war-time actions and to name was certainly more widely known, Herr Manfred Rommel,

Lord Mayor of Stuttgart and son Herr Spath retains the same of the war-time field marsbal. There are also some in his with Her Filbinger seems to end. own party who wonder whether there is not just a bit too much Here is no lover of ceremony

opposition to Christian Democrats in State parliament. Opinion polla appear to give be lie to these fears. They lie to these fears.

excellent relations with many Social Democrat deputies, who

indicate that Herr Spath already has the approval of a majority of Baden-Württembergers happy augury for him in the State's election next spring. If the polla are confirmed and Herr Spath is handsomely confirmed in office, then be will be in an exceptionally strong position at national level too—virtually independent of the outcome of the Bundestag elections in the autumn of next year.

How so? First, because Baden-Württemberg is a state so powerful economically and financially that it rode the last recession better than most-indeed it would almost be true to say that, like Daimler-Benz, its most famous industrial enter-prise, it seemed to shrug the recession off. This gives the state, and thus, its leader, a relatively strong influence at national level

Second, the Christian Democrats in Badeo-Württemberg bave one of the strongest of the State party organisations, and one of the most successful. Bluntly, there is precious little that the party at national level could do against the will of the Baden Württembergers—the more so given the current sion from his office in the hills construction husinesses in absence of a really strong party above Stuttgart, the state capital. Stuttgart and Hamburg leader at CDU national heading it is often said that Herr He only entered the State quarters in Bonn, which in turn

candidate for Chancellor. and geographical position next door to Bavaria (with which it given Herr Spath a key position between Herr Strauss's Christian Social Union—which Strauss's

decisive meetings on the vexed iasue of wbather Herr Strauss

fallures.

exists only in Bavaria—and Christian Democrats country-

pragmatic, political manager

So if Herr Strauss becomes Chancellor late next year, it will be thanks to a united strategy over which Herr Spatb has had an Important infinence. Herr Spath gives the Bavarian leader "a real chance."

or discursiveness but a prag-pragmatism at the expense of matic political manager, small, charisma, and who look askance dapper, with facts and figures on at Herr Spath's evidently should lead the combined CDU-CSU into next year's Bundestag Parties battle to win union members' votes

ask for public understanding.

office—but there the similarity

opposition Christian Democrats are atepping up their efforts to to the authority of the Deutsche attract the trade union vote

before next year's Bundestag election campaign.
In a move to woo union moderates Herr Helnar Ceissler, General Secretary of the Christlan Democrats pledged at the weekend that the opposition parties would support a "plura-listic" union movement. The

THE WEST GERMAN Social and have expressed opposition Herr Franz Josef Strauss, have reasoured the opposition Democratic Party (SPD) and the to the closed shop. leader of the Bavarian based parties. In meetings in Cologne This is an explicit challenge

Gewerkschaftsbund-the trade union federation. Herr Ceis-sler'a position is also in sharp The contrast to that of the Social with the union movement at a congress attended by most senior party leaders and Herr Heinz-Oskar Vetter, the federa-

tion's chairman. Herr Geissler's frank commitment to union pluralism was

to crowd out the private sector,

Dr. Conrad Oort, a Board

Nederland, and a former

The Government must reduce

its Budget deficit next year

below the level of 51 per cent

of national income expected for this year. Dr. Oort said, on the

eve of the announcement of the

equivalent to 4 per cent of

The Finance Ministry origin-

national income, he warned.

1990 Budgei estimates.

General, warned yesterday.

BY CHARLES BATCHELOR IN AMSTERDAM

on the capital market threatens likely to be smaller.

DUTCH Government's resulting from the linking of

Budget deficit is too large, with Dutch gas prices to the world the result that State borrowing price of oil—mean this is now

member of Algemena Bank it will still be much bigber than

forecast a deficit of critical levels, Dr. Oort went on.

Fl 16.2bn in 1979, amounting Real interest levels - the

Christian Social Unioo (CSU) as the official rival to Chancellor Helmut Schmidt at the 1980

The SPD is the most influential party in the nmion move-Democrats who only last week ment but a strong minority reaffirmed their strong links (28.4 per cent) of unionists also votes for the CDU-SCU compared to 57.8 per cent for the SPD. The fear is that these moderate voters could be deterred from support of the CDU because of some of the more ex-

positions adopted apparently prompted by the fear Herr Strauss.

Herr Strauss.

Clearly the rallles held by should be no immediate wage chriatian Democrats would be Herr Strauss in the Rohr region supplements to compensate for eroded by the nomination of during the weekend can hardly

Even if the 1980 deficit does

not exceed the level of this year

The extent of Government

between Interest

capital market bad reached

of the Dutch economy.

bу

succeeded in convincing the

the SPD.

Dutch Budget deficit 'too large' unprecedented post-war level of 5 per cent. This threatened to hamper borrowing and bence; investment by industry. Mr. Frans Andriessen, the Finance

Minister, presents the 1980 Budget to Parliament this after-

Government's publicly Finance Ministry Treasurer stated long-term target of 4 per Striking dockers and tugboatcent, Dr. Onrt added. A larger men in the Port of Rotterdam deficit was only acceptable for a were "using intimidation" to short time if it were used to prevent men prepared to work help strengthen the structure from entering the ducks, the FNV trade union federation Dr. Oott rejected devaluation claimed yesterday. Individuals of the guilder as a solution for were threatened, while strikers the stagnant economy. For the removed cobbles from the After allowing 12 per cent for Government in borrow abcoad afreets to prevent vehicles getlocal authority and other in- to meet its deficits was undirect State borrowing, the acceptable, since this would Government's financing deficit only increase money supply, ting through, the FNV added.

grnups of strikers to extend their action, which today enters borrowing on the domestic its 27th day. The smaller CNV union federation bas sald it will make emergency payments to mem-But blgher gas revenues— rates and inflation—were at an bers facing hardship because of the unofficial stoppage.

This follows decisions taken

nver the weekend by both

day to suggest that he might continue his minority govern-

he provisional result is

Vational lasues such as tagatinn.

return tu their homes later

ordered to stop work and about 200 people evacuated from

found on September 6 when a boy died after handling some

cals might be accidentally

operating, the factory had only manufactured gas, masks.



to 6 per cent of national income. difference

must be below Fl 12bn (£2,8bn). and fuel inflation.

Bahrain and Kuwait, who

more pragmatic approach than that adopted by the clergy, is seen as intended to alleviate the known anxieties of Iran's Gulf

neighbours. Dr. Yazdi is also helieved to bave his own ambitions for the presidency of the Islamic Republic once the

present process of constitu

tional transition is completed.

Meanwhile, in London, Dr. Shapour Bakhtiar, the last Iranian premier imder the

Shah, has been staking his own claim to be considered as a

potential factor in Iranian politics once again.

At a press conference yesterday Dr. Bakhtiar, who escapad

from Iran some two months ago after four months in hiding,

said the Khomaini regime

complete failure to remedy the poor state of the economy and

to prevent the massive brain

drain of professionals would prove its undoing.



Mr. Hafizullah Amin Afghanistan's new leader

Afghanistan shake-up worrying for Russia

THE OVERTHROW of President Nur Mohammed Tarka of Afghanistan, and his replacement as head of State by Mr. Hafizullah Amin, the Prime Minister, is seen by Western observers as a worrying develop-ment for the Russians. The Soviet Union has a growing commitment to Afghanistan's unpopular Marxist regime.

Radio Kabul annonneed on

Sunday night that President Taraki had resigned because of ill bealth. But he appears to bave been removed in a power struggle which caused further hloodshed in Kabul.

The fate of President Taraki and of two dismissed Cahinet Ministers — Lieut-Col. Mohammed Aslam Wataujar, Monammed Asiam Watanjar,
Interior Minister, and Major
Sherjan - Mazdooryar, Minister
for Frontier Affairs — was not
known. But there was some
speculation that they might have been killed.

Only a week ago Pravda carried a picture on its front page of Mr. Taraki being received by President Brezhnev in Moscow on his way back to Kahul from the non-aligned nations' summit meeting in Havana. Such prominence was obviously intended to demonstrate the head of the summit was a such prominence. strate that he had full Russian

support.
Until the week-end, the Khalq (Masses) Party Government was under the dual control of President Taraki and Mr. Amin —a partnership in which Mr. Amin had the upper hand, but which suited the Russians as giving them more leverage over the government

President Amin has on several occasions : embarrassed the Russians by the unpopular radicalism of his reforms, and hy his excessively pro-Soviet public stance in a Moslem, nationalist country.

Fighting appears to have broken out in Kabul on Friday, after the removal of Col. Watanjar (one of the leaders of the 1978 coup) and Major Mazdooryar from the Cabinet. Among those killed was Mr. Daoud Taroon, the head of the security forces and a close associate of Mr. Amin. President Taraki's removal followed soon

Such a power struggle at tha centre of the ruling hierarchy is further evidence of the vulnerability of the regime, fighting an insurgency which bas spread to most provinces. The Russians, who already have about 5,000 advisers in Afghani-stan, bave been supplying new equipment, including helicopter gunships. But they are now clearly facing a difficult choice in how far to go in their support of Mr. Amin.

Row worsens in Iran over export of revolution

THE RUNNING quarrel over policy hetween Iranian Govern-each have significant numbers ment of Mr. Mehdi Bazargan and of Shi'a Muslims who look to policy between Iranian Governthe ruling clergy has now Iran as their spiritual home, extended to foreign affairs.

Dr. Ibrahim Yazdi, the down hard on signs of unrest

Foreign Minister, yesterday among their own Shi'as.
rejected the declaration by The Iranian Foreign
Ayatollah Hossein Montazeri Minister's statement, taking a
that Iran would export its more pragmatic approach than revolution to all other Moslem

The Foreign Minister told tha official news agency, Pars: "We do not want to send armed men to fight foreign regimes . . hnt we cannot prevent the influence of the Islamic revolution on other countries."

Dr. Yazdi, regarded as the senior official most sympathetic to the interests of the West, said he had assured Mr. Nur Mohammad Taraki, tha former Afghan president, who was replaced over tha weekend, that Iran would not interfere in tha internal affairs of its eastern

ueighbour. Last Friday Ayatollah Montazeri, who is reported to he the head of the still secret Revolutionary Council, warned Iran's Muslim neighbours of the Islamic Republic's proselytising

Sudan sets two rates of exchange

By Alan Darby in Khartoum

SUDAN HAS rationalised its exchange rate system by setting up an official two-tier system which legitimises the existing black market in

existing black market in foreign currency.

The new officials rate of \$£ 0.50 to the dollars to be used for essential impers and exports, while other transactions—as defined by the government—will be a conducted at the parallel rate of \$£ 0.80 to the dollar.

The parallel rate will be

The parallel rate will allowed to fluctuate, official rate was preudo y \$50.40 but because of tax/subsidy arrangement transactions were carried out

The new system, introduced against a hackground of economic crisis which list month produced street disturhances and strikes. It is in tended to ease balance of payments problems, encourage Sudanese working abroad to remit foreign currency and thereby reduce inflation and reduce constraints on the

Under the new Sudanese commercial banks will be allowed to authorise more foreign-transfers without reference to the central bank and Sudanese will be allowed to npen foreign currency bank accounts with funds obtained anywhere

The Bank of Sudan, the central bank, is understood to expect a net outflow of funds during the first month in which the new measures come into force. Saudi Arabia with which the measures were discussed, has agreed to supply Sudan with a cushion of \$300m to cover the initial anticipated deficit. So far, no Saudi funds are believed to have been provided, however.

Ohira aiming for 271 seats in October poll

BY CHARLES SMITH, FAR EAST EDITOR, IN TOKYO

THE CAMPAIGN for Japan's which make up the middle October 7 General Election was formally déclared open yesterday afer some days of extralegal but increasingly active campaigining by the various

parties.
The election battle is essentually a two-way contest hetween the ruling Liberal Democratic Party and the half-dozen or so opposition parties, ranging from the centre of the political spectrum to the far left.

The Liberal Democrats, in power since 1955, are certain to win, but will not regard themselves as having done well unless they win a minimum of 271 seats in the 511-seat Lower Touse of the Diet. This is the number required for the party to control all of the Lower House Diet committees, a necessary condition for "smooth" govern-

ment by the majority party.

The Liberal Democrats, while easily the largest party, held only 248 seats in the last Diet dissolved carlier this month, making it dependent on the cooperation of some of the smaller centre parties for the passage of

some legislation. Results of recent public opinion polls and local elections indicate that the party should do better than in the 1976 election, when it was seriously weak-ened by internal feuding. It is by no means certain, however, that the 271-soat target is with-

A feature of the 1979 election campaign will be co-tion as Party Leader in a operation between the four leadership election scheduled to small- to medium-sized parties be held late next year.

ground of Japanese politics-the Komeito (Buddhist-oriented "clean government" party), the Democratic Socialist Party, the New Liberal Club and the tiny United Social Democratic Party. The four have agreed to back each others' candidates (or to back jointly approved indapendent candidates) in 10 multi - member districts. The Komeito and the Democratic Socialists alone have co-operation agreements in 20 more constituencies,

The largest opposition party, tha Japan Socialists, are ex-pected to have to fight bard to retain the 116 seats they held in the last Diet, in view of the swing towards the centre and right since the last election.

The Communists, however, are expected to do marginally better than in 1976.

A good showing for the Liberal Democrats will strengthen the position of Mr. Masayoshi Ohira as Prime Minister and Party President. Mr. Ohira has avoided any public commitment to the 271-seat target figure, presumably hecause he knows his rivals in the party would not hesitate to pin responsibility on him if the target is not attained.

Mr. Ohira won the party presidency last December, nu-seating the incumbent Mr. Takeo Fukuda against most people's expectations. He is due to defend his posi-

Camp David anniversary marked by accusations

By Roger Matthews in Cairo

THE FIRST anniversary of the Camp David Middle East peace agreements signed by Egypt, Israel and the U.S. was celebrated yesterday by more recriminations aceusations.

An Egyptian Government statement accused Israel of trying to obstruct the peace process by reportedly agreeing to allow Israeli citizens to buy land on the occupied West Bank of the Jordan and the Gaza Strip.

An Egyptian spokesman said the decision violated the

spirit of Camp David, and was an attempt to influence the nutcome of the negotiations on Palestinian autonomy. "It easts doubts on Israel's

intention to respect its commitment at Camp David to recognise the rights of the Palestinian people," the spokesman said. But Egypt's displeasure bas to be seen in the context of

its similar anger about further

Jewish settlements being set up in the West Bank and

Gaza Strip President Sadat earlier issued a statement reaffirming his determination to liberate all occupied Arab land, and to restore the "legitimate rights" of the Palestinians.

PRODUCTIVITY STARTS WORRYING SINGAPORE

A sure sign of development

starts to worry about produc- Kong.

appointed National Wages Conneil (NWC) recently hlithely announced a recommendation for an average 20 per cent rise in wage costs—higher for lower paid workers. That is in a country where inflation has been running below 5 per cent, meaning a real cost wage cost rise of some 15 per cent. The Government further said it was aiming for similar annual increases in the next few years. Clearly it was not announcing

just a wage policy, but a new aconomic strategy. Not all parts of this strategy are yet in place. Perhaps most important, one will bave to wait till Fabruary's Budget to see bow the Government inteods to mould or moderate the economic and fiscal moderate the economic and ascale effects of sharp wage rises. Of the averaga 20 per cent, 4 per cent will go to increased Central Provident. Fund (CPF) contributions and 2 per cent to a new industrial training fund.

view itself as a "rugged society." especially as workers bad to be Outsiders might feel it was not brought from Indonesia and balf as rugged as the other high Thailand as well as Malaysia.

and about on a par with Hong expanding East Asian countries, industries which Singapore and much more slowly than in now does not want

tivity.

But as a result of Governthe late 1960s.

At a tima when most government policy, wages in the last GDP growth in recent years
ments are trying to hold down few years have risen only has been at comparatively
wages, Singapore's Governmentalightly faster than prices, and modest 6-8 per cent a year
appointed National Wages well below per capita GDP. The despite annual growth of the Government has two weapons labour force of 4.8 per cent-of restraint: the annual NWC an unusually high rate caused recommendation which applied by a combination of natural to the public service and was increase imported lahour and a the guideline for others, and sharp rise in the number of tap of temporary migrant women seeking work.

> Philip Bowring, recently in Singapore, examines the government decision to raise wages.

from neighbouring

Malaysia The policy of low wages and generous tax incentives for industry, combined with Singapore's excellent infrastructure, attracted foreign investment and gradually eliminated unlarly service ones, to shed maremployment worries. It was a ginally productive labour. very self confident Singapore which recently woke up to two discomforting facts:

 Labour demand was vastly outstripping supply. Some In the past, the government has held wages down, emphasising the need for resilience and austerity to attract investment in the face of world economic over 100,000. This trend was necestainties. Singapore likes to regarded as socially undesirable, and the face of world residence over 100,000. The trend was necessarily undesirable, and the face of the f

The high waga policy is designed to stop the growth of simple low value added industries; to make other industries

かかいいいる

NWC guidelines have in par-ticular beld down wages in ex-ternally orientated services such as banking and oil indus-try servicing. This group will bave no problem paying a succession of wage lises because profits are high and costs can be passed on to customers who have no place else

IF THERE'S a sure sign of growth nations of East Asia: • That labour productivity had becoming a "developed" wages were higher than anybeen growing more slowly in find it especially tough: nation it is when a country stops where in Asia outside Japan Singapore than in other fast • Low value added assembly

 Skill industries such as engineering where local experience has been insufficient to

achieve international levels of

productivity. Local manufacturers who lack the know-how, capital or marketing capabilities to make quick changes in production techniques or products to remain competitive at higher

wage levels. If things go sour the Government has various defences: it could put a stop to the policy next year; it could eliminate the 4 per cent extra CPF contribution by employers without hurt-ing wage packets; and it can manipulate foreign manpower imports. For all its bold talk of facing np to closures, the Government is keenly aware that a sharp rise in unemployment (currently 3.5 per cent) is not a politically acceptable option.

If the policy is generally suc cessful it could scale down the contribution of manufacturing to the economy. This has been edging upwards, reaching 22 per cent of GDP last year. But critics of the Government claim that this bas only been a result of generous tax and other incentives which have had to be paid for by the services sector, which is still by far the largest contri-But manufacturing industry is butor to GDP. pays better wages, and bas been less volatile.

NELSON EETHOVEN ULIUS CAESAR N KEL

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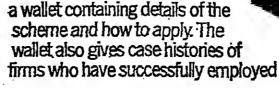
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disabled people, and information about the financial and advisory help the MSC provides.

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For the record, Milton was blind, Beethoven was deaf, Helen Keller was blind and deaf, and Leonardo and Caesar had the hidden disability of epilepsy. Roosevelt, Bernhardt, and Nelson were examples of major or partial physical disability.

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Home state likely to give former governor 168 delegates

Reagan wins California voting test

BY JUREK MARTIN, U.S. EDITOR, IN WASHINGTON

MR. RONALD REAGAN has Republicans unenthused by Mr. struggle for the Democratic demonstrated his political Reagan's candidacy, incinding Party's nomination. Several muscle, at least in his home supporters of Mr. John Constate of California, by ensuring nally, the former Treasury that a proposal that would have Secretary and Mr. Reagan's changed the rules for next most potant challenger for the June's Republican Party pri- allegiance of the party's Right mary election in the state was wing. thoroughly squashed.

mittee overwhelmingly agreed clearly a useful bonus for Mr. that the Republican primary Reagan—though one which was would retain its winner-take-all never much in doubt. Still the provision. This means that who-comfortable leader in most ever wins the primary will public opinion polls of Republiaccure all the 168 delegates that cans, following bis near-defeat California will sand to tha of former President Ford in the national party convention, at 1976 nomination race, be will which 997 delegates will be probably formally declare his needed to win the Presidential candidacy, to much nationally needed to win the Presidential

Winner-take-all primaries used to be common in both parties, hut a reforming trend has seen them almost abolished. California's Democrats switched in 1976 to a system awarding delegates on the baais of the proportion of votes won by can-didates in the preferential poll. The attempt to change tha a loser on the national level. Californian rules was launched

thoroughly squashed.

A weekend meeting of the one fifth of the number needed state's Republican central comfor the nomination, would be televised fenfare, in November.

There is nonetheless the negging suspicion that he may be vulnerable in the primary aeason. This is based on two arguments against him—hia age (he will be 69 next year and would, if elected President, be the oldest man ever to enter the White House) and his record as Republican opinion may also

party-strategists are known to feel that if Senator Edward Kennedy wins the Democratic race, his most effective opponent would be Mr. Connally, whose vigour is not in dispute and whose thirst for a no-holds-berred contest against a man like the Massachusetts senator seema unquenchable.

If President Carter emerges victorious, however, it is argued that either Mr. Reagan or Senator Howard Baker from Tenneswould be a stronger What remains to be seen,

however, is what sort of race Mr. Reagan will run. His campaign manager, Mr. John Sears, who performed so brilliantly in 1976, seema intent on moving the candidate towarda the centre, shedding his Right-wing image. Mr. Sears succeeded in ousting a campaign cabal, led by Mr. Lyn Nofziger, a long-serving Reagan aide, which wanted the former California Governor to remain faithful to his Conserva-



Mr. Ronald Reagan

that the party's Right wing will carve itself up, making more viable the candidacy of a centrist. Indeed, at this stage, the prospects of both parties engaging in bloody internecine warfare appear quite real.

But Mr. Reagan, as Senator
Baker freely admitted last week.

One of the main hopes of moderates like Senator Baker is remains the front runner and

Paraguay arrest annoys U.S.

Asuncion RELATIONS between the U.S.

Government and Gen. Alfredo Stroessner, who has just completed 25 years in power in Paraguay, have teken a turn for the worst fullnwing the arrest nn Saturday of Dr. Domingn Laine, president of the Paraguayan Liberal Party. Dr. Laino who bad just returned frnm a visit to political and military leaders in Brazil, was arrested last year nn his return from e visit to the U.S. Congress in Washingtnn. The Carter Administra-tion demanded his immediate release last year and he was

freed after a month in jail. This time he may be charged by the Paraguayan Government under the Law for the Defence of Democracy, which forbids Paragnayans to criti-clse the regime abroad. During his stay in Brazil last week, he disclosed that Gen. Joao the Brazilian President, has been unwilling to meet Gen. Stroessner to

Chrysler told to look harder for aid

IT HAS now become clear that tions. it may take several weeks for Chrysler and the U.S. Government to agree on a financial supinvolving federally-guaranteed

rejection Chrysler's \$1.2bu preliminary request for assistance, it bas now emerged that the Treasury feels that the company bas not tried herd enough to get financial support from other institu-

Government Chrysler to negotiate with the United Automobile port package for the ailing car Union in the hope that the UAW company and even longer for may sign e pay agreement Congress to approve any plan smaller than that just negotieted with General Motors. It is also interested in the company securing aid from state end local governments, from its bankers and from its suppliers.

Moreover, as Mr. Neil Gold-Transportation, bas made clear, is more intent on cementing its the Government is simply not new contracts

inclined to grant special dispen sation to Chrysler, relieving it from part of the burden of federally-imposed mileage and emission control standards.

It is an open question whether or not Chrysler can secure sup-port from outside. Company spokesmen stress that such preliminary negotiations have already begun, but no firm pro-gress has been reported. The UAW is known to be sympaschmidt, the new Secretary of thetic to Chrysler's plight, but

Brazil builds road to Jari project

BY RIK TURNER IN SAO PAULO

BRAZIL'S National Economic Federal Government to install bility for the health, transport to finance the construction of a road from the state of Para into Jari, the giant mining, agriculture and forestry proecl in the Amazoo region belonging to Mr. Daniel Ludwig.

the American industrialist. Sr. Alacid Nunes, the Para-state governor, told a symposium on Amazonia in Brasilla Italpu hydroelectric scheme. that the road would help the

Development Bank (BNDE) is a Brazillan administrative structure in the project, which is at present run totally by Mr. Ludwig's company, Jari Florestal e Agreopecuaria, managed by Americans.

The road was criticised by members of the opposition party, who suggested that the construction was only taking place because Jari's organisers were tired of taking responsi-

and education of the project's 30.000 Brazilian inhabitants. Governor Nunes admitted that before ha came to office, members of the Brazilian federal police stationed in Jari were pald by the project as well as receiving a normal salary. This effectively turned them into Jari employees, and led to irregularities such as non-Jari boats being turned away

UN GENERAL ASSEMBLY

Dissension may replace detente

BY OUR UN CORRESPONDENT



MAPCO IS OIL, BUT...

Oil is only a part of the

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integrated energy

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For a closer look at

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growth, write for our

tion and profitable

current report.

coal, gas and gas lig-

WHAT MANY diplomats predict will be the liveliest. most acrimonious session of the Assembly for several years floor fight over the issue of Cambodian representation.

Bitter arguments on this question which marked the recent Havana conference of non-aligned states are certain to carry over into the UNalong with most of those other issues that created sharp divisions as moderates and extremists bettled for control of the Third World's political direction in the 1980s.

Non-aligned nations comprise the largest group in the General Assembly, where the superpowers bave no right of veto. New strains Washington and between Moscow, exacerbated by the recent dis-closures of the presence of Soviet combat troops in Cuba, the animosity hetween Moscow and Peking, and continuing angry reaction to the Egypt-Israel peace accord—coupled with the vexed problem of the occupied territories—are sure to produce spirited debetes at this 34th General Assembly, due

to last 13 weeks.

There will, however, he at least one brief respite from polemics. Pope John Paul II is to address the General Assembly on October 2—almost exactly 14 years after Pope Paul VI became the first head of the Roman Catholic church to appear hefore the UN. In tha Pontiff's honour, delegates will forego all other business during his visit, which was arranged in response to a personal invitation from Dr. Kurt Waldheim, the Secretary General-himself

That past-master of vitriolic backed Cambodiao Government opens in New York today with capacity as the leader for the that recognition should con-the immediate prospect of a next three years of the Non-tinue is expected to become an Liberation Organisation, is considered likely to seize the opportunity to accelerate the momentum by making bis

second UN appearance. A notable absentee from UN proceedings this year will be Mr. Andrew Young. He was obliged to tender bis resignation last month as Chief U.S. delegate after he gave his superiors a misleading account of a meeting he had on July 26 with the PLO's UN observer, Mr. Zehdi Terzie.

Mr. Donald McHenry, a more cautious career official, succeeds Mr. Young, who is on a trade mission to Africe.

The agenda for the General Assembly comprises 126 items, although others may be added. Mr. Andrei Gromyko, the Soviet Foreign Minister, often proposes a few new ones, such as detente and disarmament, in his address to the delegates.

For the past few years, detente wes the UN watchword, and assembly sessions were tranquil to the point of boredom. This year, bowever, signs abound of e return to livelier times as old antagonisms are resharpened and some new ones

Cambodian nation issue o of representation, is likely to be a decolonisation—Mr. Salim has focus of recurring animosity: lately become more restrained the UN recognises the Peking- and less polemical.

phrase-making, President Fldel of Pol Pot, which was ejected Castro of Cuba, is expected to from Phnom Penb by an insuraddress the General Assembly rection engineered and supon about October 10, in his ported by Vietnam. Whether Aligned Movement. If support immediate issue, with the Rusfor Palestinian demands for sians, who support Victnam. separata statehood gains fur- likely to challenge Ieng Sary. ther ground, Mr. Yassir Arafat, the Deputy Premier, and the chairman of the Palestine other members of the delegaother members of the delegation loval to Pol Pot almost as soon as they take their seats in the assembly hall. A nine-nation credentials committee may then be asked

urgently to review the question

of representation. This would provide e little tima for the assembly to complete organisational business in preparation for the start of the general political debate next Monday. An item on Cambedian representation could be added to the agenda, following the pat-tern established by the annual debates on Chinese representa tion that preceded the with-drawal of the Taiwan nationnition of the Peking Govern

ment almost eight years ago.
Regardless of the outcome
of the current London conference, the Rhodesian questio seems certain to be discussed again in the assembly, along with the usual complex of South African problems.

The president of the assembly will he a veteran of UN diplomacy, Mr. Salim Ahmed Salim of Tanzania, who is sometimes mentioned as a possible successor to Dr. Kurt Waldheim as Secretary-General. Once a re added.
fiery anti-colonist — he has
Indochina, and specifically long presided over the 24. special committee on

a practising Catholic. BELOW: UN Security Council with ontgoing Ambassador Andrew Yoong centre, rear



Renault to build Saudi network for trucks

By Terry Dodsworth in Paris THE ENGINEERING division

of the Renault group, France's nationalised motor company. has won a FFrs 230m (£24m) contract to haild a network of 23 lorry service stations

in Sandi Arabia.

The garages will be huilt by RIET for the Sandi Arabian Government. They will be designed to service public sector vehicles throughout the country.

RIET said yesterday that the engineering for the pro-ject would he in the hands of the company itself, although the equipment for the gar-ages would he supplied hy about 20 French manufacturers. The station will have to be capable of servicing vari-

ous marques of vehicle.

Previously, RIET has won
a variety of engineering contracts in Francophone Africa.

International companies
have been impited to offer have been invited to offer bids to build an Arah satel-lite. The official Saudi News Agency, quoting Dr. Ali Mush-shat, managing director of Arab Satellite Agency ARABSAT), said tender docu-ments would be available at the Tunis headquarters of the Arah League by the end of this month.

The satellite's control station wilt be based in Saudi Arabia with reception centres in all the Arabsat member conntries. Dr. Mushshat said. He expected the project to be in operation 30 manths after the signing of the contract. Reuter reports from Riyadh.

Greece, Libya to establish closer links

By-Our Athens Correspondent

LIBYA HAS agreed to increase its imports of Greek products and set up joint industriel ventures under an agreement between the two countries signed here last

Libya, which last January agreed to provide Greece with 15m tons of crude oil in the next five years, bas been showing increased interest to expanding economic, technical and trade relations.

The Libvan leader. Muammar al Gaddafi, has extended an invitation to the Greek Premier, Mr. Constantine Karamanlis, to pay an official visit in Tripoll. On the other hand, be has also forged close ties with Mr. Andreas Panandreou, whose party, the Panhellenic Socialist Movement, has been galning ground in Greece because of its socialist and pentralist stand.

By sunnlyine Greece with 3m tons of crude oil a year. Lihva will be covering onethird of the country's annual requirements. The overall agreement means that trade hetween the two countries will Increase from \$170m to \$200m

Greek construction companies have recently undertaken protects, mostly infra-structure work, in Libya worth an estimated \$170m. The line between the island of Crete and Libvan norts is planned, as are other joint enterprises.

The two sides also agreed to set up a Greek-Libyan investment company as soon as possible to undertake joint industrial and tourist projects. The first such discussed was the establishment of an ammonia and fortiliser plant.

Iran asks W. Germans to complete iron ore project

have been asked to return to almost ready to come onstream. cerns. Important iron-producing project which had to be suspended form, from ore pellets. Each after the Shah was overthrown.

Lurgi Geaclischaften, which had been making an ore-pelletiser plant in Ahwaz, end the Korf Steel group wilhdrew their German workforce at the end of last year. The companies are now intending to send out experts to assess what damage was sustained during the revolution before the German workforce returns.

The Lurgi plant was believed plete at the beginning of this tion, the Tehran Government as a corneratone of tryear while Korf's three Midrex clearly thought it worthwhile between the two countries.

Iran lo complete work on an The Midrex reduction process produces iron, in a highly pure produce 400.000 tonnes of crude iron, representing a substantial input for the Iranian steel

> some encouragement to German companies worried about their ranian interests, the Alwaz the project for being "un-project is probably a special social" and overpriced. This case. The Iranians appear to be case. The Iranians appear to be anxious to make progress in steel production and with the Korf units so close to completion, the Tehran Government as a cornerstone of trade

TWO West German companies direct reduction units were to call back the German con-Iranian Gnvernment

makes a clear distinction between the necessity for Iron and steel projects fran retains —and "uneconomical" nuclear engineering schemes.—The S6.9hn contract to build two nuclear reactors in Bushire Although the move will give was terminated by the Iranians and Kraftwerk Union after the Tehran Government criticised

France in new E. German pact

IN THE latest of a recent series of afforts to boost trade with Eastern Europe, France has signed an industrial pact with East Germany intended to cover France'a favour after a FFr 12bn (£1.27bn) worth of FFr 250m deficit with East Germany last year. French equipment between Germany last year.
1980 and 1985.
Recent French

countries. France is trying to repair the disappointments following earlier agreements. In early 1977, the French and East Cermans set their sights on a tripling of trade by 1980. In railway equipment. The East practice, only this year are the two countries within reach of their 1976 trade record of and electronics.

FFr 191bn. In 1877 their exchanges dropped to FFr 1.38bn, German Trade Minister, sald recovering to FFr 1.75bn last bere thet the two countries were year end FFr 1.4bn in the first seven months of this year,

contracts

include a transmission parts As in several other Comecon factory to be built by Citroen and a fertiliser plant deal with

In railway equipment. The East the Germans are also secking of French co-operation in chemicals

envisaging joint production of d'Estaing to Bucharsei machine tools in France for sale Moscow in March and Amil

As a result of a contract for in hoth markets and to third French railway carriages, trade countries. The twn sides expect to conclude a technical co-operation agreement in the first half of

next year. France has agreed to arrange credit facilities. This agreement fullowed a visit by M. Jeao-Francois-Poncet, the French Fureign Minister, to East Berlin

in July.
No details were given of what the East Germans expect to export to France in return but they bave made clear that they will be seeking to balance bilateral trade over the five year period.

Other boosts to East farmer pean trade came during finite by President Valery discard d'Estaing to Bucharage and

W. Germany sees Far East boom

the Far East and South-east the same period, however, trade 1978 to DM 12.2bn. The deficit Asia is expected to expand by close on 20 per cent this year. In the not too distant future the area is expected to began annual average of 13.4 per cent. During fore be up from DM 14.7bn in 1978 to DM 12.2bn. The deficit in Japan's favour, however, should remain stable at 1978's DM 3.6bn. the area is expected to become one of the most important markets for German goods.

This year authoritative fore-casts cslimate the Federal Republic's trade turnover with the area to reach close on DM 34bn (£8.3bn). This compares with 1978's DM 28.4bn. At the same stime the Far East and South-east Asia will foreign trade. Last year the figure was 5.4 per cent.

Institute. the expansion has the area. been under way for at least four

Federal Republic's total foreign are forecast to reach DM 4.3bn. Federal Republic's DM 500m trade has grown by an annual Total trade volume will there- sales in 1976.

Imports from the area have grown far faster than exports. Ifo points out. But it claims that long-term trends Indicate that

the Federal Republic's chronic

trade deficit with the area should eventually be eradicated. imports from the area at about DM 19.1bn. while it predicts DM 3.3bn by the end of 1979 exports rising to DM 14.7bn. —DM 1bn above the 1978 is well account for about 5.6 per cent This, if the forecasters are of the Federal Republic's correct, indicates, a reduction in the deficit this year from 1978's DM 4.9bn to DM 4.5bn.

from Japan are expected in hand, are forecast at DM 2bn,

WEST GERMANY'S trade with average of 7.7 per cent. During fore be up from DM 10.7bn is In real lerms, however, the

faslest growth in real terms has come in the Federal Republics trade with South Kores. In 1876 the total turnover in trade between West Germany and South Korea amounted to The Institute estimates 1979's DM 1.5hn. This will have risen, according to Ifo forecasts to

Whal is most encouraging about West Germany's South Korean trade is that exports are figure was 5.4 per cent.

According to a report by Much of the deficit is This year imports are expected accounted for by trade with forschung, the highly-regarded Munish-based economic rescarch

1978's DM 4.9bn to DM 4.5bn, crowing far faster than imports. This year imports are expected to increase relatively slowly—forschung, the highly-regarded most important trade partner in DM 1.4bn.

Exports from West Germany This year German imports to South Korea, on the other Between 1976 and 1979 the total DM 7.9bn, while exports which is way ahead of the

Brazil help in Manila fuel plan

BRAZIL is to supply expertise countries have similar oil prob- Sr. Velasco was unsure whether and equipment to the Philiplems, the Philippines, produce pines in the development of a less than 20 per cent of its oil broadly based alcuhol fuel programme.

This was revealed by Sr. Geronimo Velasco, the Philipino Energy Minister, who spent 10 days touring Brazil, inspecting cane plantations, alcohol distilleries, distillery equipment manufacturers and Volkswagen of Brazil, which now producers vehicles which run exclusively on cane alcohol.

The alcohol entente is logical according to Sr. Velasco. Both

needs-11,000 b/d of total consumption of 240,000-and Brazil only produces about 15 per cent -162.000 b/d of consumption of

over 1m b/d.

Both nations, moreover, have abundant sugar cane, and, like Brazil the Philippinea hopes an alcohol programme will eventually replace 20 per cent of its petrol needs.

Since Volkswagen vehicles are produced in the Philippines,

bis country would import "alcomobiles" from Brazil, However, he said, manufacturing technology for these vehicles would definitely be Brazilian. Equally, his Government was Interested in importing distillery equipment from Brazil and studying Brazil's use of alcohol

industry.
At the moment, two-way trade is in Brazil's favour: In 1978, it exported \$41.7m (£20m) of goods to the Philippines, and bought only \$1m.

-circular knitting marhines. This is being achieved through

the new orbit loom—and by a broadening of the knitting pro-

duct range, mainly through

as industrial fabrics, where the

high output speed will make it

possible to link the machine

directly with other equipment

for adding backing materials.

The key to orbit's success, bowever, will be whether it

can later move into the much

more demanding apparel fabric

weaving area where much finer

counts of yarn have lo be used

Northrop by contrast, is seek

ing a place alongaide the estab-

lished Continental weaving

machinery groups with a much

more conventional machine, al-

though it is the newar shuttle-

less type of loom. Its problem will be in mounting a success-

ful challenge when faced with

The main application of the

acquisition.

aa feedstock for an alco chemical

WEAVING MACHINES

UK in bid for Hanover comeback

BY RHYS DAVID, TEXTILES CORRESPONDENT

TWO NEW weaving machines trial decline. World purchases

looms, worth around £1bn a month at the International Textile Machinery Association exhibition in Hanover.

The first machine embodies e

new and as yet largely untried concept developed in Loughborough by Bentley Engineering, the Sears Group subsidiary which is one of the world's leading producers of knitting machinery. Based on an Italian invention the Bentley machine incorporates e moving cylinder and is claimed to produce fabric 10 times faster than the conventional flat loom.

The other development is by Northrop, the Blackburn-hased loom builder. The company was one of the giants of the weaving machine industry in the immediate post war years, but has recently been confined to the manufacture of the older shuttle type loom which has been largely superseded in developed markets by high speed shuttleless or rapier systems. Northrop will be showing its first rapier loom at the exhibition.

Weaving equipment — of which Britain was the only manufacturer in the early part of the last century—has been another sad story of UK indus-

which hetween them carry of looma have been totalling it has largely been overseas Britain's bopes of a serious rearound 40,000 a year, with loom manufacturers which have bene-entry into the world market in prices reaching £30,000 and fited from the re-equipment looms, worth around £1bn a more for advanced models. But programmaa in the wool textile year, will go on display next Britain has almost failed to Apart from Northrop, whose

main markets have been in developing countries which it has supplied with the slower, more labour intensive and therefore cheaper abuttle looms, the UK weaving mechinery industry has consisted mainly of small specialist manufacturers. Thus the UK has a position in narrow fabric weaving through Booas and in conveyor belt weaving through Wilson and

small suppliers to the wool textile iodustry in Macart and Hattersley. The Swisa bave captured much of the world market in the expanding sbuttleless area through Sulzer, Saurer and Ruti. Other important suppliers are SACM

Longbottom, and also has two

of France and Dornier of Garmany. The UK ahare of OECD exports of both weaving and knitting equipment, aecording to a recent National Economic Development Office sector working party report, was down to only around 5.6 per cent in 1977 compared with 13 per cent at tha start of the decade, and the bulk of these sales are accounted for by the knitting sector.

weaving sector has meant that world demand for its main line programmaa in the wool textile and cotton sectors over recent years.

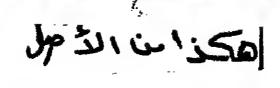
The wool textile industry bas spent around £100m over the orbit loom at present is seen past five years, under a Government-assisted modernisation scheme, and much of this bas heen on weaving equipment. Varinus attempts have been

made to revive the industry, including Government funding of more than £200,000 towards a new technique developed by Cambridge Consultants, part of the Arthur D. Little Organisation. This project failed to and fabric construction is much attract commercial support, more critical. however, and has now run out of funds. Platt Saco Lowell, the UK apluning machinery producer, has been reluctant to tackle weaving, taking the view that its expertise is in machinery for processing fibres and not in the very different technique of producing fabric. Loom development bas made

more sense for Bentley, which is already involved in fahric technology as one of the world's leading producers of knitting machinery, with a turnover last year of around £50m.
The group's move has also

the very large development budgets and research alaffs available to the established producers. ITMA 1979 could become the

event at which Britain puts itself firmly back into loom build-The group's move has also lng, beginning the recovery of been prompted by the need to one of the industrial sectors it find new products to compen- has lost. It lonks, however, like The lack of a competitive sate fer the severe declina in a fairly long that,



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French may seek Concorde spending

BY MICHAEL DONNE, AEROSPACE CORR.

THE POSSIBILITY of limited further spending on Concorde research to keep supersonic airliner technology alive through the 1980s, is likely to be suggested to the British Government this week by M. Joel le Theule, French Transport

He is due to meet Mr. Adam Butler, Minister for Industry, in London on Friday ostensibly for routine talks about clearing up the remnants of the Concorde

production programme.

But M. le Theule is expected to take the opportunity to suggest that rather than wind up the project—which is what the British Government would like to do-the two governments should at least spend a comparatively small amount annually on continued research against the time wheo a secood generation supersonic airline might become

So far, the total bill for Concorde research, development and production has amounted to well over £1bn, divided between Britain and France. The 16 production aircraft authorised bave been built. Two are research aircraft, and 14 are for airline service, of which British Airways already has six and Air

Beyond deciding what to do about the three aircraft still unallocated (of which one is in Britain and likely to go to British Airways, and the two others in France which are likely to go to Air France), the remaining task is to clear up the odds and ends of a programme that has lasted since November

The British Government is not anxious to become involved in further Concorde spending, prefering to leave it to the aerospace industry to undertake research as it considers neces-sary to sustain technical know-

ledge on supersonic airliners. The UK industry feels, however, along with the French Government, that some continued support from the governments. even at a comparatively low level, is desirable; so as to keep with continued U.S. research spending in this field. The argument is that if Britain and France drop super-sonic civil research entirely the way will be left wide open for the U.S. to move into a secondgeneration supersonle airliner in the 1990s, just when Concorde closure will result in will be nearing the end of its bined annual saving of £600,000.

Offices Bureau heads list of quangos to be axed

BY ANDREW TAYLOR

THE LOCATION of Offices in the first group of 36 quangos land in London and on Mersey-Bureau is among the 57 organisa-tions named in the first large-tions Industry Manpower Board, Scale Government pruning of costing an annual £10,300; the guangos—announced yesterday Hadrian's Wall Advisory Comfair to compare the cost of hy Mr. Michael Heseltine, Environment Secretary.

However, the scrapping of almost half the Environment Department sponsored quangos - quasi antonomous non-Governmental organisations will result in an immediate annual saving to the public purse of only £1.4m. About 60 jobs will also go and 590 quango appointments will be ended.

The £1.4m saving is made up from the cutting of 36 quangos which are to go immediately and a cut of £700,000 a year from Mr. Heseltine's decision to stop funds to the Centre for Environmental Studies, also announced yesterday.

Mr. Heseltine also named a further group of 21 quangos which will be scrapped "in due course "-most of these are New Town bodies which are in any case due to be wound up when their powers are eventually transferred to local authorities. It is unclear what savings, if aoy, will result from the wind-

ing up of this second batch of quangos. Mr. Heseltine also announced that responsibility for a further three quangos — advising on the purchase of works of art; works of art in the Commons and on sculpture in royal parks -will be banded over by his department to Mr. Norman St. John-Stevas, Arts Minister. This will reduce the number

of quangos for which the Environment Department is responsible from 119 to 58.

Yesterday's announcements come shortly after the Government has launched a full scale inquiry under Sir Leo Pliatzky into the operation and future of all quangos. And Mr. Heseltine made it clear that further quangos for

his department responsible could still be wound up. He said that the position of the Agreement Board the standards authority for the building industry—the future of which bas come under increasingly close scrutiny-was still helog considered. The future of bodies such as

the Housing Corporation and the Sports Council looks secure. Mr. Heseltine said that it was highly unlikely that these organisations would be scraped. Of the 36 quangos immediately due for the axe the Location of Offices Bureau and the eight Regiocal Economic Planning Councils command by far the highest hudgets. Their Other organisations ioclnded

mittee costing just £400 a year and the Clean Air Council cost-

ing £5,500 a year. Trade union leaders have already strongly criticised the ending of the Constructions Board. This was established three years ago to advise on the "lump" system of paying construction workers — under which workers become labouronly sub-contractors and are paid salaries gross which are not always declared to the Inland Revenue.

Professor Peter Willmott, director of the Centre for Environmental Studies said yesterday that he regretted Mr. Heseltine's decision to withdraw funds from the centre which draws four-fifths of its cash from Government

The centre which employs 75 people would now seek to make up this balance by applying to the Ford Foundation and other American charities said Mr. Willmott. The centre is currently working on four projects for the Environment Department—the study of property markets, urban decline Department—the homelessness and regional

planning. Mr. Heseltine also defended his recent decision to establish two new quangos — urban development corporations — to development corporations — to than less because their func-mastermind the redevelopment tions will have to be taken on of 8,000 acres of derelict dock-by Government departments."

The Environment Secretary fair to compare the cost of establishing these two new bodies with savings to be made from the cutting of other quangos. He said that the redevelopment of dockland

offered immense opportunities. On the new towns, Mr. Heseltine said that he was coocerned about the speed with which urban areas were declining while the people going to new towns were those that urban areas could least afford to lose. He had, therefore, ssked Mr. John Stanley, Housing Minister.

to carry out a complete and urgent review of the new towns. Our tabour staff writes: An official of the Association of Scientific, Technical and Managerial Staffs which has publicly defended quangos said last night that the answer was not to cut them out but to make them more accountable to Parliament and the consumer.

Mr. Russell Miller, national officer responsible for ASTMS members in grant-aided bodies. said: " Many of these bodies are safeguards against bureaucratic abuse, being in the fortunate position of being part of government but not responsible

He added: "People looking for their abolition are going to have more hureaucracy rather

The full list

Quangos to be abolished: Advisory Committee on Bird Senctuaries in the Royal Parks; Advisory Committee on Housing Co-aperatives; Advisory Committee on Trees in the Royal Parks; Advisory Committee on Trees in the Royal Parks; Ancient Monuments Board for Rescue Archeoology (to be re-absorbed by Ancient Monuments Board); Ansa Archeoological Advisory Committees (13) (residue) functions to be performed by the Inspectorate of Ancient Monuments and Historic Suidings on advisor from the Ancient Monuments and Historic Suidings on advisor (rom the Ancient Monuments Soard); Cleen Air Council: Construction and Housing Research Advisory Council: Canstruction and Housing Research Advisory Council: Construction and Housing Research Advisory Committee; Inland Waterways Amenity Advisory Committee; Inland Waterways Amenity Advisory Committee; Location of Offices Sursau; Planning and Transportston Research Advisory Council; Regional Economic Planning Councils (8); Standing Technical Committee on Synthatic Outer-Gents.

nical Committee on Synthetic Genergents.

Quangos to be retained for the present but which will be wound-up in due
course: Advisory Panel on Instrutional
Finance in New Towns; Commission for
the New Towns; New Town Gevelopment Corporations (18); New Towns
Staff Commission; Committee to
Examina the Standards of Lawri Tennis
in Great Artain; Recreation Menagament Training Committee.

Quango from which funds will be
withdrawn: Contre for Environmental
Studies.

Quangos to be pessed to Minister for the Aria: Advisory Committee on the Purchase of Works of Art; Advisory Committee on Works of Art in the House of Commona; Advisory Committee on Sculpture in the Royal Parks.

Quangos to be retained or further considered: Advisory Committee on Local Government Audit: Advisory Committee on the Protection of Sirds: Advisory Committee on Rent Rebates and Rent Allowances: Agrement Board: Ancient Moouments Beard: Sirlish Waterways Board: Building Regulations Advisory Committee; Commission on Energy and Environment; Commission for Local Administration in England: Commons Commission for Local Administration in England: Commission Commission: Commission for Small Industries in Rural-Areas; Countryside Commission: Deselopment Commission; Housing Services Advisory Group: Hydraulics Research Station Advisory Committee; Luchworth Garden City Corporation; Local Government Court Organisation: Mattendary Commission; Local Valuation Court Organisation: Mattendary Commission Local Valuation Court Organisation: Mattendary Commission; Local Valuation Court Organisation: Mattendary Commission; Local Valuation Court Organisation: Mattendary Council Parks Planning Readed; (2): Neturns Planning Industries; National Parks Planning Readed (2): Neturns Courcil: Notice Advisory Council: Property Advisory Group; Redioactive Wester Council: Notice Advisory Council: Solt Industry Industry Council: Solt Industry Industry Council: Property Advisory Group; Redioactive Wester Management Advisory Committee; Wester Management Advisory Commission. Quangos to be retained or further

Agent to stop acting for Sasse

By John Moore

MERRETT DIXEY Syndicates, the Lloyd's underwriting agent, is to stop acting for the troubled Sasse syndicate.

The announcement came yesterday after a two-and-a-half hour meeting of the members of the 110-strong Sasse syndicate, which faces £20.2m of losses. Merrett Dixey Syndicates was the agent brought in by Lloyd's to manage the syndicate in May

1978, when it ran into trouble. Uoder the leadership of ir. Stephen Merrett, chairman of Merrett Dixey, the syndicate has gained numerous forms of help from the 16-strong ruling committee of Lloyd's to help meet its losses arising from fire

Other losses that the syndicate is facing are on computer leasing insurances and liability nsurances for fairground and holiday camp operators.

and damage to property insur-

During Mr. Merrett's handling of the syndicate's affairs his relationship with the Lloyd's committee has been stormy. He said yesterday that his decision was taken because of ⁴a combination of events." The Lloyd's committee bad acted "without our knowledge" when it prepared legal action against 30 members of the syndicate last week because tbey had indicated "a reluct-ance to comply" with the

Lloyd's audit requirement. Under this, the underwriting members must return a certificate of underwriting account which shows that their assets are sufficient to meet liabilities. Lloyd's is seeking a declaration that the 30 members of the syndicate should produce their certificate by September 30.

Mr. Merrett said that the legal action started by 27 members against Lloyd's, in which Merrett Dixey had become a co-defendant, also made it difficult for his company to continue to act.

Two Lloyd's deputy chairmen, Mr. Charles Gibb and Mr. Peter Green, atteoded yesterday's

If the Merrett management is not replaced within 30 days management of the syndicate reverts to the Sasse Turnbull management company and Mr.

Frederick Sasse. One member of the Sasse syndicate, Earl Fortesque, has demanded a public apology from Lloyd's. Ha was named in the Lloyd's action but said vesterday in a letter to Mr. Ian Findlay, Lloyd's chairman: "If you had takeo the trouble to inquire you would have dis-covered that I have submitted a certificate of my assets, confirmed by an accountant, that tors and that I have met the audit requirements."

Feature—Lloyds troubles may lead to reform—Page 16

£½m project to deepen Lowestoft dock

By Lynton McLain

LOWESTOFT PORT, Suffolk, is to be deepened in a £500,000 project to allow ships twice the present maximum size to use it.
The British Transport Docks The British Transport Docks
Board has awarded the
contract to John Laing Construction and work will startnext month. It will involve
deapening the bridge entrance
channel to the harbour by
nearly five feet.

When completed the channel will be 68 feet wide and 18 feet deep. This will allow ships of 6,000 tonnes deadweight to berth at the port's commercial

inoer harboor.

Indicators suggest downturn soon in economic activity

BY PETER RIDDELL, ECONOMICS CORRESPONDENT

husiness cycle.

There is considerable controversy among economic com-mentators as to when the expected recession will start. Some think that a downturn has started, while other believe that demand will hold up for the rest of this year.

The Central Statistical Office's indices of cyclical indicators, published yesterday, tentatively suggest an early downturn.

The composite index of longer leading indicators, which looks ahead an average of 12 months to cyclical turning points, fell again last month to near its lowest level since 1974. This reflected a further rise in shortterm interest rates and a decline in share prices,

After a temporary rise in the early spring this index has fallen for a year, which suggests that ootput should be at or near a cyclical peak.

The index of shorter-leading indicators, which looks ahead about six months, fell in July or the second month running, though it has finctuated sharply the past couple of years. supply and the recession will the index of coincident indibe delayed slightly. in the past couple of years.

A DOWNTURN in the level of cators, which is broadly in line economic activity in the next with the cycle, rose slightly in few months is suggested by July, for the fifth month in a official indicators designed to row, while the indicator which identify turning-points in the lags behind turning points was

broadly unchanged. Officials warn that month-tomonth movements need to be interpreted with care because of erratic influences, and revisions to the underlying data.

A turning point seems near. But as yesterday's monetary hulletin from the stockhrokers W. Greenwell said, "given the accuracy of existing techniques, whether monetary or Keynesian It is unfortunately not posssible at present to be precise about timing."

Consumer role

The brokers stress the importance of consumer psycho-logy and the level of savings. But they have little doubt "that before long the rise in inflation and the coming rise in unemployment will make people cantious, and that savings will then rise; but the consumer could in the meantime bring expenditure forward to beat future price increases.

"If this happens, savings will temporarily fall, personal loan demand will remain buoyant, and the downturn in the money

Manchester by-election test for Government

BY PHILIP RAWSTORNE

by-election next Manchester Central. Labour leaders, already confident of victory in this party

stronghold, forecast that the result will reflect rapidly growing disillusionment among Tory voters. Less than six months after

Mrs. Margaret Thatcher was swept to power, they claim that many of her supporters are ready to defect.

the award of a life peerage to Mr. Harold Lever, the former Labour Cabinet Minister, Mr. Rohert Litherland, a print

worker and city concillor, defends the Labour majority of almost 10,000. Reinforced by the results of the local government elections. in which the fories gained less than half Labour's vote in the

area, he says that the poll on political honeymoon.

his own computer business strongly disputes Labour's

THE GOVERNMENT faces its chester Central's voters may first test at the polls in a grasp this second chance to by-election next week at follow the course set in the Gentral Election throughout the country. Mr. Lea says that he will

gain advantages too from the differences which arose between Mr. Lever and Labour Leftwingers in his local party. and I aram nch closer in the political spectrum . . , I am his natural successor," he says. The Liberal candidate. Mr.

Tony Parkinson was chosen When nominations closed only last week and his late yesterday, six candidates had entry into the lists is unlikely entered the contest, caused by to improve on the Liberals poor showing six months ago. Some of the floating voe is expected to go this time to the Ecology Party, which fielded 53

candidates in the General Elec tion, and is represented now by Mr. John Foster a schoolteacher and formerly an active member of the Labour Party.
The other two candidatts are

Mr. Seyed Ala-Ud-Din, Inde-pendent Lahour, Mr. William Boaks another Independent who has contested several byelections in recent years. General Election result:

servative candidate who runs N. H. Lever (Lahour) 14.117; H. P. Commins (Conservative) carculations. Support for the 1.052; D. S. Bentall (National Government's policies remains Front) 365. Lahour majority solid, he says and that Man- 9.704. 4,413; G. M. R. Wilmot (Liberal)

Builders urged to unite

work much more closely together to dispel the industry's poor public image says an independent report prepared for the National Federation of

Building Trades Employers.

The report is by a working party with Prof. Denis Harper, of Manchester University, as chairman. It says the industry faces a difficult and lengthy task in convincing people that it does not suffer from indif-ferent ethical standards, and in removing suspicions of corruption and collusion. It is also should then be put before the widely assumed that the two main bodies end any other

LEADERS OF the construction poor quality, says the report. industry should be prepared to It calls for the NFBTE and the Federation of Civil Engineering Contractors to draw up a draft constitution for a Confederation of Construction Industries

The existing representative bodies will not by themselves extremes of prejndice-particularly when internecine antagonisms among both employers bodies and unions are widely publicised.

The draft constitution should be prepared within a year, and two main bodies end any other industry's workmanship is of interested parties,

BP attacks cheap U.S. chemical imports

By Sue Cameron. Chemicals Correspondent

BP CHEMECALS managing director warned yesterday that profits could be thit hard by a flood of chest U.S. petrochemical imports coming on to the European market.

Mr. Len Burchell said the petrochemical industry in Western Europe was "scared to death" of the threat from American imports.

The problem was being made worse because European Commission civil servants seemed to be either "misunderstanding tha position or also trying to

avoid the problem altogether. "We are concerned because there is no way European companies can compete with U.S. imports. Last month, the price of ethylane—a basic petrochemical—was \$370 a tonne in the U.S., while in Europe it was between \$615 and \$640 a tonne.

"The price of propylene, another emportant material, was \$275 a tonne in the U.S. and between \$435 and \$465 a tonne in the European market.

Gas prices:

"These figures show the root cause of the problem in a very real sense. And from a legal point of view, judging by what has happened so far, the exist-ing anti-dumping procedure is totally ineffective. Anti-dump-ing costs can only be made if a country sells abroad at a lower price than in its home market. The U.S. producers are not doing that."

Cheap U.S. imports were al-ready appearing on the Euro-pean petrochemical market just there was no evidence yet that they were coming in on a large scale.

Acetic acid, one of BP Chamicale own products, was being offered in Europe by the Americans at £30 a tonne below market prices on this side of the Atlantic. Vinyl acetate also made by BP Chemicals, was being sold at £50 a tonne less than the going rate in Europe. But the U.S. producers were selling their materials through hrokers. It was therefore diffi cult to know exactly which U.S.

companies were involved. The Americans were able to sell petrochemical products more cheaply because they paid less for raw materials. Enropean companies relied heavily on oil-hased naptha to make ethylene, while the 70 to 80 per cent of U.S. ethylene was made from gas. This was cheaper because the process was

In addition, U.S. oll and gas therefore considerably lower than in Europe.

European textile producers had already been hit by cheap U.S. imports which resulted from lower American feedstock

prices.

But the European Commission had said that before any action could be taken against the U.S., Europe's textile pro-ducers would have to distinguish between America's nat-ural advantage in using gas-rather than naphtha as a feedstock and the artificial one of having controlled oil and gas

"It is virtually impossible to distinguish between the two and to say how much weight should be given to each," Mr. Burchell said.

"We are dependant on the Commission's willingness to actually take action. What we would like to see is a mechanism hased perhaps on the un-fair competition clause in the Gneral Agreement on Teriffs and Trade - GATT - which could be triggered quickly."

NEWS ANALYSIS • LYNTON MCLAIN ON LONDON TRANSPORT

Jnions accept one man, one train

of the longest series of negotiations in its history. London Transport first tried to coax the unions towards

acceptance of one-man trains 11 years ago. There was little chance of success, however, but oot because of union intransigence. The 237-mile underground railway was not equipped with rolling stock suitable for opera-

tion by only a driver. But London Transport got underground train drivers included in a national pay and efficieocy agreement and set the scene for an appareotly never-eoding annual dehate.
The agreement called for one-man operations as soon as

practicable chapter in the saga came in 1968 as the first one-man operated trains sped along tha new Victoria Line under auto-

This advanced equipment, however, was installed only on the new line. Fitting the equipment to all existing lines with £1.9m after expetheir 4,500 rail cars was too £439.5m and receive expensive. Instead, the LT gronts, of £334.6m.

matic control

ONE-MAN operation of London's underground train system was agreed yesterday, after one capabla of one-man operation.

ONE-MAN operation of London's underground train system the 1968 agreement was to be was agreed yesterday, after one capabla of one-man operation.

To line stock introduced after wage hill and reduced support. 7½ per cent bonus payment of the 1968 agreement was to be capabla of one-man operation. The debate with the unions started again two years ago when the first of the new trains for older lines arrived. But the issue came to a bead only this year, after the threat of an allout strike by drivers. A strike was the last thing the

London Transport Executive wanted. The executive's budget for this year forecast an operating loss of over £20m, and the Graater London Council is reducing London Transport sub-

Subsidies

The forecast was based on small increases in bus and train mileage, a £1.5m fall in council revenue support to £54.5m (a Paradoxically this opening £6.5m loss in real terms), and hapter in the saga came in provision of an extra £17.4m for growth in the traffic handled. London Transport's operating

loss could rise to £53m in 1981 unless the GLC sanctions higher fares, bigger subsidies or both. However, last year, London Transport had a net deficit of £1.9m after expenditure of £439.5m and receipts, before

London Transport chairman, and to become Mr. William Maxwell, managing man trains. director for railways, to improve productivity among the system's 2,000 drivers.

They succeeded. But the agreement announced yesterday is limited in a number of ways. The scheme will not start until early next year, and will apply only on the Hammersmith and City and Circle Lines.

This leaves the District, Central, Bakerloo, Piccadilly and Northern Lines and London Transport's newest, the Jubilee Line, without one-man opera-

London Transport plans to have one-man operated trains on all lines by the and of the century.

But London Transport also expects to see more regular train aims to convert this line in 1981. services on the Hammersmith The next phase will be the and City and Circla Lines. The improvement would come from by 1990, when "very handsome fewer cancellations owing to returns" from one-man opera-London promised yesterday.

Three-quarters of the costs of

For the next two years, the redundant guards will be found other jobs in the service, but gradually, numbers will be reduced as people retire. Mr. Maxwell said yesterday

that the bonus payments would contribute to a £1m loss on the Hammersmith and City aod Circle Lines for each of the first two years of the new scheme. But the executive was prepared to support this loss, in the hope that the lines would break even after two years and that the more efficient railway and

increase in passengers would eventually pay off. The first of the purpose-built rolling stock suitable for con-The immadiate aim of the verting the District Line to one-move is to increase productivity. man operation is now being delivered. London Transport

Transport tion are expected, Mr. Maxwell These targets, however, are a

expensive. Instead, the LT gronts, of £334.6m.

Board's policy for upgrading Fares have already risen costs. Cutting the operating it is recognised that this year's twice this year by 7.5 per cent crew from two to one is an first scheme is a pilot venture, was to be based on waiting for in June and 12.5 per cent obvious saving, but this is to be reviewed by both sides old rail cars to wear out. All earlier this month, amid a rising countered partly by the weekly after six months.

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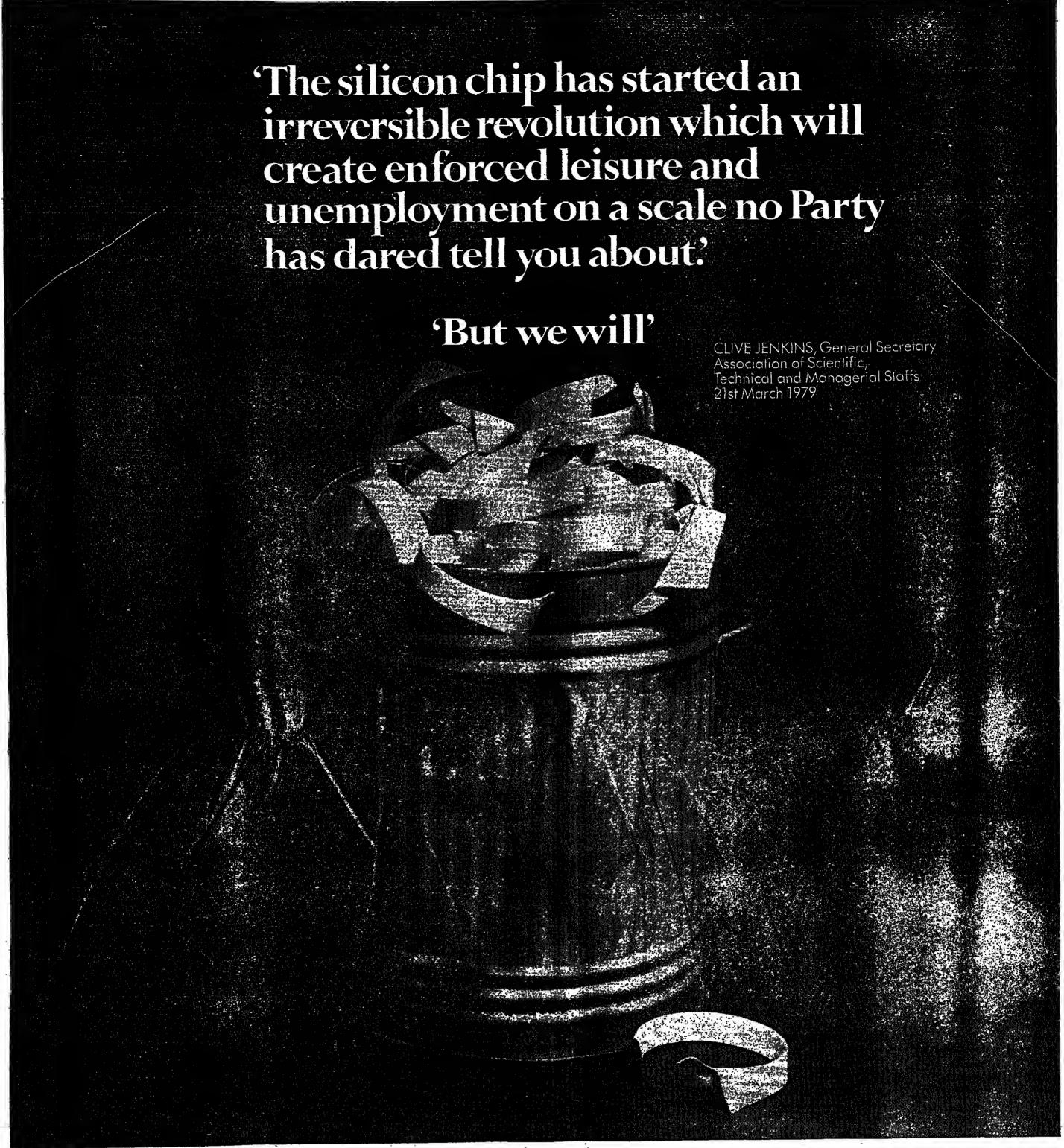
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What is about to happen-what has started happening alreadywill change the world for ever.

In an astonishingly short time the Chip could put about 5 million people out of work. Probably within ten years. Those that can't be retained and given new jobs are likely to STAY unemployed.

Most who lose their jobs in the beginning will be white-collar workers. For the first time heavy middle class unemployment is on the way. Britain's present level of workless is looked upon as temporary. It is. Because soon it will rise remorselessly. And stay up!

But why? Why won't the chip, like other earlier technical revolutions, spawn new industries and new jobs, and soak up

Simply because the chip's actual function is to replace old skills without creating new ones. Even as new enterprises grow so the chip will make sure that only the jobs it cannot eliminate will be left for people to fill.

The Germans call it the job Killer.'
James Callaghan described it as—"the most rapid industrial change in history."
It's world-wide. It's here.

Is this scaremongering?

Only if you don't want to face the arithmetic of what is happening. Some economists and politicians believe in a policy of wait and see.

They don't want to alarm you.

But ASTMS has its own highly respected research unit. (Even the Treasury subscribes to its quarterly reports!) And we have done our analyses endlessly. Everything points the same way: to a permanent level of unemployment which will have to be coped with in a completely new way. Around the world other expert bodies are coming to the same conclusion.

The chip is starting a social revolution.

Ever since man came out of the trees
he has worked to live. Within the memory of
older citizens a working life could last from
childhood to the grave. And from dawn to
twilight. Six days a week.

Even now we are wedded to the old notion of 48:48:48. Forty eight hours a week, forty eight weeks a year, forty eight years of work.

We can only cope with the chip by

changing centuries-old assumptions.

From now on what we do when we are not working will be as important as what we do when we are.

Unemployment is a bogey which has been exaggerated. It will come to be seen as the other half of its—the non-working, more enjoyable half.

We believe that to work as an act of devotion to the concept of working is an absurd idea. In the age of the chip it is sheer folly. Because all it will do is to reduce the prosperity which will flow from the chip's great productivity.

Training for leisure has been talked about for years. Now it must be a reality backed by heavy Government investment.

Fulltime education can't remain what it has always been for most people, just a chunk of scholarly activity in early life. It will become part of your mature years, too. Even life-long.

The educational system should be

expanded non. Hugely. And orientated more towards adult education.

We think this is of vital importance and of direct concern to the members of ASTMS.

We shall grab every opportunity to press the

Government to act. And we shan't give up.

Who will be worst hit?

The heaviest impact, as we've said, will be felt by white-collar workers. Here are just some of the jobs we think are most at risk:
Draughtsmen, Programmers, Accountants and Book-keepers, Shipping Clerks, Cashiers, Filing Clerks, Machinists, Machanics, Wardhousemen, Sales and Stock Clerks, Key Punchers, Postmen, Library Assistants, TV Repairmen, Assemblers... and so it goes on.

How quickly will it happen?
It's happening now. The momentum will build up through the eighties.

At ASTMS we saw the 'new technology' coming. We have spent a great deal of time and money in anticipating its effects and planning ahead for the sake of our Members.

We believe that the idea of simple job security is too narrow for the new society suddenly growing about us. Instead it should be altered to 'whole life security.' A concept in which all the needs of people in work and out of work, and in their old age, are planned for. From now on we shall base negotiations.

on this as a matter of routine.

ASTMS will have a key role.

And our task will not be simply to defend

our Members' interests.

It will be to re-define the terms upon which people work.

Industry and commerce cannot be left to do this alone with all the disorders and hardship the sudden arrival of the chip will impose upon the labour market.

So, is the chip a disaster?

No. It's an opportunity to re-think and re-shape a better working world. If we, you and ASTMS, get together we can grab the unique chance it offers.

It will prove in an amazingly short time to be one of the great and good innovations in human history.

If you would like to know how we believe your job, your family, and your future will be affected by the chip just ring us at this number. *Real* people will answer from 10 to 5 – after that it's the chip again!

TELEPHONE: 01-985 6011 OR 01-985 6466 OR WRITE FREEPOST TO:



Merchant

Navy

officers

UNION NEGOTIATORS repre-

senting 41,000 Merchant Navv

officers yesterday submitted a

cent on pay rates, and longer

The unions also told

employers that they were dis-satisfied with the existing

national negotiating avitem and might attempt to move to-

migot attempt to move incompany-level negotiations.
Mr. Eric Nevin, general
secretary of the Merchant Navy
and Airline Officers Association
said the unions did not see

much room fur manocuvre in the claim, which includes a sub-

stantial improvement in holi-days as a move towards a acheme of one day on, one day

The unions said the claim's pay element was simed at main-

taining the value of last year's settlement and was based on

increases in the Retail Price

Mr. Graham Turnbull, leader of the General Council of British Shipping said the council believed the figure of 25 per cent overstated the position.

The unions said the level of

pay settlement in the industry had been brought dawn to that of what the weakest company could afford. The general coun-

cil said yesterday that national

settlements involved pulling up-many companies to a pay offer, the level of which they would not utherwise have reached

A settlement for this groop

is due in November. Average earnings are just under £12,000

a year for masters, £11.000 for cblef engineers, £7,000 for second deck officers and £5,000 for junior engineers.

Busmen's chief

follows Kitson

in union post

MR, LARRY SMITH, leader of

the busmen in the Transport and General Workers' Union, was yesterday appointed executive officer, the number three position in the union.

His appointment hy the

general executive council may be seen as providing political

counterweight at the top of the

Mr. Smith, a moderate, and

twice a contestant for the

general-secretaryship, succeeds the Left-wing Mr. Alec Kitson.

who will move up to deputy

general secretary when Mr.

Harry Urwin retires next year.

important position

By Our Labour Editor

holidays.

off working.

Biffen defends monetary policies against critics

BY PETER RIDDELL, ECONOMICS CORRESPONDENT

Secretary to the Treasury, yes- UK"-is bunk. terday strongly defended strict monetary policies against the bunk—designed to enable the views of "influential policy politician to transfer part of the and "fair-weather

In a speech to the North-West Area Conservative Women's Conference at Lancaster University, he put forward a more full-blooded monetarist case than might be supported by some of his ministerial col-leagues and official advisers.

Mr. Biffen argued that oil had provided the false alibi for inflation so often used by Western politicians over the

The view that an increase in only the price of oil produced a con-stabilised sequential general price rise horrowing eventually reduced throughout the economy—"come so that interest rates strike a monly and widely held by level which enables credit to

£20,000

offered

By John Lloyd

for micro

inventions

A COMPETITION to find the

jointly yesterday by the

National Research Development

Corporation and the National Computing Centre.

microprocessor-hased device.

the interest shown by companies

in the new technology, and in

the number of applications to

the Government for assistance under the various support

"The late 1970s sees Britain

with only one surviving major

mainframe manufacture in com-

petition with the American

Isle of Man

frequencies

By Arthur Sandles

Geneva this month.

row over radio

THE ISLE OF MAN may set up

its own broadcasting licensing

authority to allocate frequencies.

This move follows a row be-

tween the Manx Government

and London over broadcasting

Relations worsened when the

Brilish Government refused 10

allow the Manx Broadcasting Commission to seed an observer

n a frequency conference in

The Manx Government's case

is that Britain gave the island VHF and medium wave fre-

quencies which were believed to

he exclusive but then also

awarded the medium wava frecuency to local radio stations on

ven as an airliner fuel in the

This follows last week's four-

which the possibility of using

liquid hydrogen as an alterna-

tive to peroleum fuel in civil

The conference, attended by

more than 100 delegates from

aviation was discussed.

1990s and beyond.

MR JOHN BIFFEN, the Chief influential policymakers in the perform its legitimate com-Secretary to the Treasury, yes- UK"—is bunk. mercial role."

"It is deceptively dangerous blame for our domestic Inflation upon the swarthy foreigner." Mr. Bliffen said the recent report of the General Agreement on Tariffs and Trade (GATT) secretariat supported bis argument.

He argued that the key to inflation was sound monetary policy. Only such an approach enabled "an economy to enabled an economy to accommodate a sbarp rise in a specific commodity, such as oil, without a subsequent rise in prires generally.

"That policy can succeed aly if public spending is spending is stabilised and government horrowing eventually reduced

Mr. Biffen said Parliament would be told quite soon of plans for public spending which will be designed to ensure much more realistic projections for the next few years. This will be an indiapensible precondition to securing the economic circumstances for lower interest rates.

He stressed that the real test this policy lay in the determination of the Government to persist with it when "the fair weather faint hearts fall aside.

The Prime Minister and the Chancellor of the Exchequer have aet their minds and wills to see that a policy of sound money, thrift and enterprise will get a proper opportunity. The vindication of such a policy will need time—a politician's most precious commodity."

Suppliers to discuss telephone sales move

BY ELAINE WILLIAMS

the Government's decision to end the Post Office monopoly on the supply of equipment to telephone aubscribers will start later this month.

hest invention which uses a microprocessor was launched will include Standard Tele-phones and Cables. Plessey, the General Electric Company and It is the second competition of uoions within the telecommuniits kind this month. Last week. cations industry.

Peterborough Development Corporation offered a similar sum, much of it in the form of rentfree factory space, for a novel Industry will wait until the Monopolies Commission reports Its findings on the postal side of Past Office activities before The latest competition will be open to individuals. institutions and companies — including discussing how the split of the foreign-owned subsidiaries—based in the UK. two divisions will work in

The prize money totals £20,000, split between two cate-So far the three main equipment suppliers have expressed gories. The first, for entries with a mixture of reactions about the end of the equipment monopoly.
Standard Telephones and Cahles, the UK subsidiary of U.S. International Telephone and Telegraph, is enthuslastic about being able to offer a wider cheles of sealphones. a working model, will attract a first prize of £10,000. with second and third prizes of £5,000 and £2,000. The second, for cutries where a working model cannot be demonstrated, has a first prize of £2,000 and a second choice of equipment to users, provided it is suitably approved.

Relaxing the monopoly will allow a larger range of tele-Mr. William Makinson, managing director of NRDC said that in the field of microprocessor phones on to the market. emplication. the UK "Is not doing enough and it is not going renidly enough." He had been "very agreeably surprised" by Telephone answering machines,

TALKS ON the implications of over the telephone networkand automatic dialling systems can also be offered directly to the consumer.

STC believes ending the monopoly will benefit consumers The talks, between the and manufacturers. It wants to Department of Industry and see a quick but orderly transimain Post Office contractors, tion from a monopoly to a competitive market. This will give present suppliers time to adjust to changes in dealing with the Post Office.

But Plessey, another major It will take at least until the Post Office supplier, is more end of the year to complete the cautious. Mr. Des Pitcher, discossions. The Department of managing director of Plessey Telecommunicationa and Office Systems, said: "We have noted the change with interest and look forward to promised consultations.

Standards

General Electric, the third supplier, bas refused to comment until It ha; assessed the situation more thoroughly.

Ending the monopoly does not mean that any manufac-turer will be able to sell telephone equipment for people's

Equipment will still bave to come up to the standards set by the Post Office or any other regulatory body in control of standards, to ensure that it does facsimile equipment—which standards, to ensure that it does allows the transmission of not affect or degrade the overall plctures and typed documents telephone network.

Women buy more wine than men, says Stowells

BY OUR CONSUMER AFFAIRS CORRESPONDENT

riants. Whether we like it or not we must also face the fact from men as the msin buyers the housewife. of table wines for bome conthat the world of micro-electronics has its centre of ravity many degrees west of Greenwich. The challenge now is to make our strength the

cent of all wine was bought by women and 19 per cent by men. The rest was bought jointly by hushands and wives, but the choice was clearly influenced by women. Wine sales total £1.65bm a

year in the UK.
Mr. Norman Wehher, Stowells' sales and marketing director, said yesterday: "Everyone in the wine husiness will have tp consider the influence of women when marketing wineor they will forfeit sales."
Stowells is changing its

marketing atrategy to give its THE MAN who introduced the wines more appeal to women. police Panda Car, Mr. Bill winea more appeal to women. Two of its major brands—Corrida and Toujours—will shortly
he selling under new labels
designed to appeal to women.
The growing importance of
women is largely because of the
rapid increase in lake-home sales as well as the bigger demand for dry, white wines. Whitbread's take-home sales

WOMEN ARE taking over wine more easily accessible for

of table wines for bome con-sumption in Britain, according 1979, white wice sales rose by to figures released yesterday by the Whitbread wine subsidiary, 10m gallons. Stowells predict Stowells of Chelsea.
Stowells said market research showed that about 26 per growth area in the UK light

For this reason Stowells shortly plan to sell a white whee from Czechoslovakia. The company claims that this wine—St. Hnbertus—will he the first Czecb wine 10 be introduced nstionally.

Panda and Z-Car man dies at 73

Palfrey, died last night aged Mr. Palfrey, former Chief

Constable of Lancashire, was involved in another famous name—the Lancashire force's Z-Car patrols, which became a housebold name through the BBC television series. He also equipped all his officers on the rose by more than half last heat with two-way radios. Pre-year as more supermarkets and viously they had bad to rely other High Street outlets made on the telephone.

Scottish rate rises By Ray Perman, Scottish THE LABOUR Party in Scot

Labour

calls for

land yesterday launched campaign against Government spending cuts. It urges local anthorities to minimise the effect on services by increasing

Labour controls four of Scot land's nine regional authorities. Aiready the two largest, Lothian and Strathclyde, bave said they will not make cuts in all the areas outlined by the Scottish Office, but will try to maintain the level of services. Mrs. Helen Liddell, Labour's Scottish secretary, said the party was not calling on local authorities to break the law by refusing to make cuts. But it was asking them to do everything possible to reduce the effect of cuts on the elderly and

Wherever possible, rates and charges for services should be increased rather than the level the party conference next month.

A party document says that Scotland will be particularly bard blt by cuts in local services and aid to industry. level of public expenditure about 20 per cent higher than the national average has been crucial to narrowing the gap between Scotland and the rest of the country in growth rate, employment levels and earn-

The document estimates that £500m could be cut from spending in Scotland by autumn. 1980. An immediate target of £150m has already been set; at least another £175m is to be cut from Scottish Office services. The rest will come from reductions in expenditure on nationalised industries, universities, regional development and other projects financed in Scotland by UK departments.

The clash between local and central government over spend-ing ts the first of several expected by Labour. Another is foreseen over the sale of council bouses, if the Government decides to pass legislation to override the reluctance of Labour district councils to carry out Government policy.

Campaign to help the disabled

GOVERNMENT ministers. Sir John Methven, Director General of the Confederation of British Industries, and Mr. Len Murray General Secretary of the TUC, combined forces yesterday to launch a campaign to improve job prospects for the disabled. They toured an exhibition on board a train carrying the message to 12 cities that employers need to know more about the disabled.

Mr. Jim Prior. Employmen Secretary, Sir Keith Joseph, Industry Secretary, and Mr. Reg Prentice, Minister for the Disabled, were at the exhibition at Marylebone Station, London. Mr. Prior said there has always been a feeling in society that disabled people cannot do johs "and that's wrong." He said the quota system which obliged employers to take on a percentage of disabled people bad not worked well.

Mr. Murray said he hoped to see trade unions talking to at defence and other establishmenployers regularly about the kind of jobs disabled people.

A spokesman for Devooport could do.

The Fit to Work campaign, launched by the Manpower Services Commission, will cost about £350,000 and aims to tell employers about facilities such as grants which are available special equipment for disabled people.

There are 11m disabled peopla in the working population of Britain, and another 130,000 are out of work.

Chrysler strikers ignore Ryton closure warning

BY ARTHUR SMITH, MIDLANDS CORRESPONDENT

in Coventry vesterday to con-tinue their 11-week strike in move to close Ryton. spite of a management warning that it could mean closure of the

Nearly all 2,000 employees from the plant which assembles the Alpine model, attended the mass meeting and gave overwhelming support to shop stewards who recommended that the action should continue.

the neighbouring Stoke engine wage increase in reply to the factory—where 3,100 workers workers' demand for more than walked out 10 weeks ago over 20 per cent.

CHRYSLER UK workers voted the same pay dispute—had move to close kyron.

Mr. George Turnbull. chairman of Chrysler UK, warned last week that closure of Ryton could be necessary "in weeks rather than months" unless the dispute was satisfy quickly

the dispute was settled quickly. He insisted that the only way to higher carnings would be through a self-financing incen-tive acheme. The company, taken over by PSA Peugeot Union leaders revealed during Citreon at the beginning of the the meeting that stewards at year, has offered a 51 per cent

Mr. Tony Lloyd, the engineer ing union convenor, at Ryton, warned workers yesterday that Chrysler might take the deciaion this week to close the plant. But he insisted that the conditions attached to manage-ment's offer were "intolerable and completely unacceptable."

 Vauxhall Motora yesterday held confidential talks with plant and national union offi-cials on a pay dispute which has halted all work at the company'a Ellesmere Port factory on Merseyside The company has offered increases worth 17

AUEW may debate its stand on Labour Party reforms today

BY OUR LABOUR CORRESPONDENT

now the union is to cast its block vote on the proposed re-forms of the Labour Party al

No mention on the subject appears on the agenda for the union's conference, which opened in Eastbourne yesterday. hut efforts were being made last night to persuade the standing orders committee that the sub-ject should be dealt with through an emergency motion. The conference could not instruct the union's Labour Party delegates on how to vote on re-

the Left-leaning conference as a strong bargaining factor on their side when the delegation meets in Brighton before the conference to decide its position.

The Left is already cautiously optimistic that it will have a majority on the big engineering section delegation, although the union's executive is now under Right-wing control. A decision at the conference

yesterday may make it more difficult for union leaders to delegates on how to vote on re-persuade workers at Robh selection of MPs, election of the Caledon, Dundee, to accept the

THE Amalgamated Union of party leader and preparation of rundown of their shippard. Dele-Engineering Workers' national future Lahour manifestos. But gates unanimously adopted a conference may debate today Left-wing members of the dele-how the union is to east its gation would see a vote from gineering section division covergineering section division covering Dundee, instructing the executive to "demand no contraction of the British ship huilding industry and to support workers fighting to save their

> Workers at Robb Caledon are standing out alone against British Shiphuilders' proposals to shed 6.000 employees although the Corporation and the Confederation of Shipbuilding and Engineering Unions bave reached agreement on means of secking to do this without compulsory redundan-

Jenkins begins recruiting drive

BY NICK GARNETT, LABOUR STAFF

A MAJOR recruitment drive, achieved over the last decade. based on the job implications of the silicon chip and geared principally towards staff in banking and finance bouses, was launched yesterday by the Association of Scientific. Technical and Managerial Staffs.

The campaign broadly coincides with the opening of an ASTMS office in the City next January, merger discussions with APEX next month, and amalgamation talks with one other small TUC-affiliated union amalgamation talks with one other small TUC-affiliated union and two small staff bodies outside the TUC.

ASTIS, along with a number of other white-collar unions, is finding it increasingly difficult to and two small staff bodies outside the TUC.

of other white-collar unions, is

A CAMPAIGN to fight proposed

cuts in the school meals service next year has been launched by the National Union of Public

The union says the proposals

will lead to between 30,000 and 45,000 redundancies among the

It plans to involve other

as the selective strike action over the 22-30 per cent pay offer begins to affect operations

and parents' groups in the mented.

unions in the educational difficulties in school kitchens service, the TUC, Labour MPs where cuts are being imple-

workers face increasing layoffs drivers, lockgate operators and as the selective strike action other staff continued.

300,000 women workforce.

Employees.

The recruitment drive bas been hit to some extent by the refusal of British Rail and London Transport to carry the unlon's advertising campaign. Mr. Clive Jenkins, the union's general secretary, sald yesterday that this was 'monstrous" British Rail said the decision.

had been taken by British Transport Advertising, which controls advertising on British Rail and within the National

campaign. Last month the

union drew up a guide for its

720,000 members outlining

industrial action in retaliation

against proposed spending cuts. Mr. Alan Fiaber. NUPE

general secretary said yesterday industrial action was not

planned for the school meals service but there could be

Layoffs fear in State pay row

Action by the crane-drivers in

particular has halted work in some areas of the yard because

supplies are not being moved.

About 2,000 workers at the Driver and Vehiele Licensing Centre at Swansea were laid dockyard, which employs more Driver and Vehiele Licensing balted after more than 300 than 12,000 workers, said Centre at Swansea were laid fitters and electricians were yesterday that large numbers off on full pay yesterday after suspended without pay for could be laid off later this week the centre's computers were refusing to work normally.

Sir Peter's letter says his concern was to prevent an inter-union wrangle which could have unpredictable consequences for the railways. The TSSA opposed an ASTMS recruitment campaign on British Rail several years ago.

ASTMS intends ringing rail and Underground stations with advertising on the micro-chip, concentrating on City com-muters and other financial centres such as Edinburgh and Manchester.

Mr. Jenkins said yesterday that eixsting staff bodies in finance, including (though not specified by name) the Banking, Insurance and Finance Union, finding it increasingly difficult to unions, the white-collar Trans- dld not have the resources to maintain the growth rate port Salaried Staffs Association. fight a job protection campaign.

Mr. Reg Race, Labour MP for Wood Green said yesterday the

Science bas said it would be

removing statutory obligations on local education authorities

over school meals to achieve a

5 per cent cut in public spend-

The cuts, which need final

Cabinet approval, would save

action hy maintenance workers

who operate air conditioning

All flying at the experimental

aircraft establishment at Bos-

combe Down, Wilts., bas been

ing for 1980 to 1981.

about £200m a year.

equipment.

Union launches school meals campaign national secretary for passenger

New name on **ACAS** council Department of Education and

MR. JAMES PRIOR.* the Employment Secretary, has appointed Prof. Ben Roberts to the council of the Advisory Conciliation and Arbitration

Service from October 1.

Prof. Roberts replaces Prof.
Hugh Clegg, who resigned earlier this year after his appointment as chairman of the Standing Commission on Comparability.

Air India dispute ends

AIR INDIA has resumed normal services from London after a month long dispute. Flights bave been ending at European airports.

Management and the Trans port and General Workers' Union agreed on a return to work formula over the weekend. The deal gives Air India staff pay rates in line with those at

THE ITV DISPUTE

industrial if the action by about 260 crane- shut down last week because of

Technology becomes key issue

BY GARETH GRIFFITHS

to end the six-week blackout in Independent Television has changed markedly from the beginning of the dispute. Then, it was a straightforward pay issue. Now the key issue lo both sides is new technology. New technology in broadcasting bas taken on much of the emotive content the term has acquired in newspaper publishing—inoeed the com-

THE EMPHASIS of diacussions

to The Times dispute. They see technology as a way of improving programme output particularly in news and current affairs programmes. and say that television is faliling behind other countries' techno-

panies make constant reference

The television unlons par-ticularly the Association of Cinematograph. Television and Allied Technicians, consider introduction of new technology at 21 to one. counled with reduced manning levels a threat to jnhs.

ACTT is well aware of the effects of new media technology because of the rundown of the cinema industry, where thou end overmanning and that tration Service auspices on sands of lobs have been lost, without it much work, includ- September 7 this had hardened

levels are closely linked. ACTT is sceptical of the Independent unless they use the present Television Companies' Associa-tion claim that it would mean expanded television production unions can push up pay claims to absorb displaced staff. to cover a news story. Using auccess.

electronic news gathering (ENG) equipment the team would at most consist of a reporter, sound recordist and cameraman. ENG gives instant transmission of material on video tape and eliminates processing. Capital costs of installing

the equipment may be much higher than the equipment used at present Cameras cost £20,000, editing machinery transmission equip-£30,000. ment £10,000; one television executive bas put comparativa cost of new equipment to old The companies as a group

asy benefits of faster service money. and lower labour costs will mean better programmes. Com-New technology and manning ing documentaries, could cease, on the ITV side to a matter of equipment.

opportunity for a national new technology agreement, In new agreements on a piece-Thames Television sends out meal basis. ITV unions have a team of eight to 10 people used this tactic with great

> There are varying reports as to when the new technology issue became crucial to the dispute. The start of the ACTT strike and the lockout of the National Association of Television. Theatrical and Kine Employees and the Electrical and Plumbing Trades Union was simply about pay.

Introduction of new technology and manning agreements by Mr. Ronald Carrington, by Mr. Ronald Garrington, labour relations adviser to the companies' association, in the initially viewed as a way for the companies to pay staff more

But by the time of the talks between the two sides under pany spokesmen say it could Advisory, Conciliation and Arbi-

Several companies fear that principle; no new technology

ITV managements say they are fed up with what they call the continual guerrilla warfare of the unions, and in particular

Two companies are apparently keeping the others in line, Paul Fox, managing director of York-shire Television, is regarded by many as the real power in ITCA. and as wanting to make sure the companies win the agreements they want. Granada is the

other tough-liner. The companies say they are prepared for a deal worth about 161 per cent, plus 4 or 5 per cent for new technology agree-ments. Craftsmen in NATTKE would be paid an additional 4 or 5 per cent arbitration award.

The BBC watches the ITV dispute avidly. Many of its senlar officials believe ITCA is in one sense fighting their battle for them. A year's ENG agreement with the Association of Broadcasting Staff bas not been renewed. The corporation is engaged in "delicate" negotiations with the union about new



ways to promote liquid bydro- Switzerland and West Germany, agreed that the matter should be explored further.

day conference in Stuttgart, except Saudi Arabia, are representational by Lockheed Aircraft sented on the technical team, of the U.S. and the West but Saudi Arabia is expected German aerospace industry, at to be invited to join soon. The team's objective is to convince governments that they should ask the International Energy Ageocy to start an experimental programme, last-

ing several years, to study the government use of liquid bydrogen. The they would venture would be funded by a venture. the participating governments. One idea, put forward by Lockheed Aircraft, is for a small all-cargo airline to he set up. using modified TriStar airliners. and flying regularly between the U.S., the UK, West Germany and Saudi Arabia. This would roat about £600m

for the four alreraft envisaged.

BY MICHAEL DONNE, AEROSPACE CORRESPONDENT A TEAM of international ex- aviation and related industries and all the ground installations. perts from seven countries in- from the U.S. UK. Caoada, The aim would be to study in liquid fuels for airlicers, cluding the UK is to explore France, Japan, Saudi Arabia, detail the practical possibilities, would be too beavy and and limitations, of making, storing and using large quantities of liquid hydrogen fuel in civil All the countries attending, aviation.

Team promotes hydrogen as aircraft fuel

Mr. G. Daniel Brewer, manager of hydrogen pro-grammes for Lockheed, said in London yesterday that the Stuttgart meeting had agreed that such an airline was feasible, and that it would be worth establishing.

The matter was something for governments to consider, since they would have to finance such

Mr. Brewer said liquid bydrogen was as cheap as jet aviation fuel, and it would become cheaper. It was also a more efficient fuel for aviation than either aynthetic jet fuel derived from the liquefaction of coal, or liquid methans.

Nuclear power was no longer

considered an alternative to would be too beavy and too expensive to develop and use. Pending the success or otherwise of the internstional team in convincing governments of the need for liquid hydrogen experiments, Lockheed would continue its own research, at its OWN EXDENSE Members of the technical

team include Mr.

Hawkins, Lockheed, U.S., Dr. K. G. Wilkinson, deputy chairman of British Airways Mr. E. Simon, Lufthanso; Mr. A. S. Strub, EEC; Mr. J. Plenard. Air Liquide, France: Mr. C. J. Winter, West German Aerospace Industry Research Association; Mr. E. E. Ecklund, U.S. Department of Energy: Mr. G. G. Kayten, National Aerocautics and Space Administration, Washington: and Mr. Neil Gore, Canadian Department of Trans-

かかいいら

materials, the laser technique

precisely to a temperature at

which a desirable change in

In magnetic bubble films of

gallium-substituted yttrium-iron-

garnet, the technique can produce a redistribution of the

sites occupied by gallium and

iron atoms. The redistribution

of atoms results in a film in

which bubble domains arc

smaller and thus allow a given

The film is nudamaged in the

pricess, as shown by the fact

that it returns to its original state when annealed in a fur-

and independently Rockwell's 256K-bit

control modules.

memory devices.

memory devices, one Megabit

Motorola will also be

source for certain support cir-

cuits designed for production

applications of the bubble

The agreements also provide

for adding future devices and software products in botb

bubble memory and M68000

Rockwell International is at

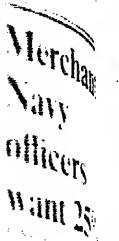
3310 Miraloma Avenue, POB 3669, Anaheim, Calif 92803, US.

microprocessor familles.

niemory modules and

film area to store more data.

crystal structure occurs.



SOFTWARE

Teaching computers to speak English

REPORTED ON briefly in this understands 30 largely comput-page late last year, the Djlnni lng orientated concepts such as method of controlling a computer by simple instructions in etc.

It will deal with a limited conway since then Several comning and can be demonstrated. In particular, they will be shown in operation at the Northeastern Computer Show in Boston, Mass, towards the end of this

compel a computer user to learn a formal—and frequently convoluted—language and procedure before working on a computer equipped with it. This stems from the fact that an instruction can be phrased in several ways provided it remains in simple English—for instance: Multiply item 3 by item 4 to get item 5 or; item 5 is the same as Item 3 times item 4 or again: calculate the product of item 3 and item 4, this is item 5, etc.

text of statements about variables and their relations; the special variables are not included in the basic vocabulary.

There are, for the time being, a number of rules to be learned, largely dictated by the equip-ment to be used. But these are

does is to evaluate statements in English, decide on their meaning and automatically translate them into the CBASIC language. It also operates in reverse to produce statements (antomatic documentation) in plain Eng-

Developers of the method aay

Further from Berkeley Enter-So far Djinni-B understands prises, 815 Washington Street, 110 English words. It also Newtonville, Mass, 02160, U.S.

ELECTRONICS

Work tool for many users

DESIGNED in order that there Packard, King Street Lane, The system architecture allows Winnersh, Wokingham, Berks broad support of currently avail-(Wokingham 784774).

Code-named Pisces, the 64000 aims to take the mystique out of microprocessor - based product

to six team members are able to use the development system processors are under develop-barmoniously without affecting ment, says the company, and the others' workloads in will shortly become available.
developing hardware and soft- Basic system comprises developing natural ware, it is possible to H-P bard disc, workstation, and complete proprinter and up to five additional workstations can be added to the state of the state o

In this "magic box" syntax ing on-going development pro-errors are virtually eliminated grams. However, systems can with directed syntax and soft be designed to match a custo-keys labelled by the screen, and mer's current needs and, says powerful workstations sbaring H-P, expanded without difficulty a hard disc store.

ing orientated concepts such as 'add, copy, print, subroutine,"

The most important thing not numerous nor are they about Djinni is that it does not complex.

it can be equated to the work of a department manager giving an instruction how a job is to be done to a new clerk.

With storage capacities from should be no hlatus during a 20 to 120 Mbytes, this approach development or in day to day is said to provide easy and fast performance, and also accom- access to a very high performmodating the varying needs of ance operating system (occupy-up to six separate people in ing some 200,000 bytes) plus simultaneous projects, is a logic virtually unlimited storage for development system by Hewlett program development.

Packard, King Street Lane, The system architecture allows

able microprocessors and anticipates new trends in the market such as 16- and 32-bit devices.
Four widely used units—Intel

8080, 8/85, Motorola_6800 and Zilog Z80-are fully supported. Emulators for other micro-Basic system comprises an

at any time without interruptto meet growing demands.

• IN THE OFFICE

Chips for the property men

rather reactionary surveyors silicon chip programming every possible permutation of practice may baulk at the module inserted in the back of tax and sinking fund. Special micro-technology the calculator. entering bis life (without knowing that the magic chip has designed for UK surveyors' already made bis wife's aquaintance on the home-front). It with the backing of "Estates age, forestry and grant
could however resolutionies Gozatta" could, bowever, revolutionise Gazette" with programs his day to day routine, save designed by consultant surveyor valuable hours of office time Nick Noton (who developed the

Now available to the sur- for his own use). veyor, quantity surveyor, estate agent and those connected five sections—general purpose, with these professions) is an valuations, with these professions) is an valuations, special surveying advanced programmable calcu-functions, office aids, matheconversions to the most complex of areas (no scale plans are moving averages.

based on a Texas Instruments

THE SENIOR partner in a application by changing a tiny freebolds and leaseholds with

programs deductions. and also cut down unnecessary project from his use of a T159 calculator to write programs

The programs are split into a report). lator whose micro-memory has matical aids. General purpose 33 programs covering metric programs include calculation necessary), metric conversions, Called the Micro Owl, it is and measurement of premises.

The valuation section features programmable calculator which discounted cash flow as well as can be adapted for specific years' purchase calculations for

surveying functions range over

The Micro Owl can be used figures can be incorporated in

Cheering thought for the first-rapidly that their high-time user—the operating temperature structure is re-manual completely dispenses tained. with gobbledegook written in good, plain and often friendly English.

Micro Owl, The Manor House, Uppingbam, Leics. (057-287 478).

DEBORAH PICKERING

What the Dilini black box Muirhead's fast facsimile machines

Muirhead is one of the most advanced analogue machines of its type in the world. It com-petes on speed with digital machines, which are considerably more expensive.

Four speeds are available in the one macbine—30, 45, 60 and 180 seconds (for a standard A4 document). No other comparable machine (CCITT Group 2) can transmit as fast as 30 seconds and speed is increasingly important to combat the escalat-

ing cost of telephone line time. The K6400 incorporatea the "T30" facility which means it can communicate with any other manufacturer's Group 2 machine at the flick of a switch.

The K3000 is a digital machine tbat can deliver a bigh quality facsimile in as little as 15 facsimile machine scronds (for a standard A4 CCITT Group 1 or 2.

AUTOMATION

Industrial

Syslems is the most advanced

paper-making machine control

system to be offered by a British manufacturer.

of an investment of over £100,000 by NRDC, it compares

favourably in cost and perform-

ance with imports and will be

unveiled at a conference and

exhibition to be held on September 18-20 at Great Danes

Hotel; near Maldstone, Kent.

organised by the Institute of

Measurement and Control.

Developed with the assistance

K6400 facsimile transmitter by document). Solid state operation-including solid state scan-—ensure utmost reliability. The K3000 has been designed

as a stand alone unit for the high speed transmission and reception of mail, either locally or internationally, or, in con-junction with Muirhead computer/facsimile interface equipment, aa an input/output device for computer stored data-particularly in word processing

A third unit that will be launched at Telecom 79 Geneva is the upgraded K442Ganalogue facsimile macbine.

Prime improvement is the incorporation of the T-30 faci-lity for completely automatic recognition of, and communica-tion with, any other type of facsimile machine in either

NRDC SAYS a new unit by in the paper-making industry using multiple computing ele-

efficient and economic running

It has multi-loop automatic

control, multi-colour visual dis-

plays and process analysis

facilities. A further facility, believed to be unique, is the

Boyle is already established use of distributed intelligence 9NE. 0474 64794.

of the paper-making machine.

with a range of basis weight and ments to achieve the data pro-

moisture gauging systems. The cessing power usually confined

and control system that includes system; this allows optimum all the features required for location of the video displays,

Paper-making under micro control

The K442G-T30 allows the sender to choose the transmission speed to suit the document by presenting the operator with an illuminated display of the alternatives available depending on which type of machine it is sending to. It has four basic speeds-2, 3, 4 and 6 minutes (for a standard A4 document) but with an additional 6 minute high resolution speed designed to handle documents containing detailed graphics or fine print.

Its "auto-answer" facility means reception can be made automatically. An operator at the receiving end is not reauired.

Muirbead Data Communications, Beckenham, Kent BR3 965 8911).

operator communication key-

Boyle Industrial Gauging

Systems, Northfleet, Kent DA11

excessive cabling costs.

RESEARCH

Better bubble film

ing the properties of magnetic allows a sample to be heated bubble materials by laser annealing, followed by rapid cooling to freeze-in the annealed It is the first module actually estimating and quantities, data structure, have been developed designed for UK surveyors storage, levelling, contour plot- by scientists of International by scientists of International Business Machines.

They are based on the fact that a laser beam can heat a small region of material to a high by itself on site, for finger-tip temperature so rapidly that the information, or on a desk top surrounding material remains with its printer (then the cool. As the laser is scanned across the material, the regions that bave been heated cool so

Potentially an extremely versatile tool for tailoring the 218, Yorktown Heights, New properties of thin film York 10598, U.S.

COMPONENTS

Sharing out the know-how

IN A MOVE that will save a Group, Phnenix, Arizona, will great deal of development receive technology to produce money Motorola Inc and Rock- and well International Corporation Rock have made an exchange and alternate source agreement covering Motorola's MC68000 microprocessor and Rockwell's hubble domain memory products.

The agreement provides that Rockwell's Electronic Devices Division will receive technology enabling it to produce and independently market the Motorola MC68000 16-bit advanced microprocessor and selected family devices at its Anaheim and Newport Beach, California.

Motorola'a Semiconductor

METALWORKING

Push in robot welding

BRITISH ASSOCIATES of the two big Swedish groups ESAB ment between the companies and ASEA, respectively major will be a closer integration of forces in the electrical/electronics world and in welding ing equipment side. technology, bave decided to join forces and actively market welding robots in Britain and Eire.

Apart from marketing, the vice that tentative users in this bighly specialised area require to make a success of an automated venture.

new equipment, System 380, to relatively large central 6 and 60 kg capacity robotsutilises the latest mlcro-minicomputers. It also provides wblcb are of the intelligent types power converters, bave also with microprocessor controllers been brought out by ASEA. processor and software tech-three-wire communication be-nology to produce a gauging tween the various parts of the with microprocessor controllers in a number of countries, including Britaln. They are being applied in many "dirty" industrial operations, including boards and digital displays for control and management fettling and deburring, as well as looking after feeds to diecastmonitoring, .. without incurring ing machines, bagging chemicals, checking the dimensions of 2,350 and 1,700 amps respecenging products, as well as tively.

Spot-welding and heavy duty continuous welding tasks.

ESAB at Medway 34455.

Prior delivery.

Freeline. Snaygill Industrial Estate. Keighley Road, Skipton.

Yorkshire (0756 5719).

the two arms of the robot weld-

In the meantime, ASEA has announced the development of a new low-cost thyristor specifically for welding applications. partners will provide the kind Electrical ratings include a of technical and after-sales sersurge current of 5,500 amps peak and designs are available for voltages of 400 or 600. Two new power thyristors, one

for inverter applications at ASEA has been supplying its mains or medium frequencies, aud the other for very bigh The inverter unit is rated at 240 amps and in voltage grades

from 400 to 1,200.

and mean current ratings of

LAING make ideas take shape

CONSTRUCTION **Specialised** production

building A NEW approach to relocatable buildings, specifically to meet the special requirements of the electronics industry, has been introduced by Freeline of Skipton, Yorkshire,

Production standards within the electronics industry have to be very high. In order to measure voltage to less than 10 nano-volts and capacitance down to minute fractions of a farad. it is advisable to have an isolated room with a distortionfree environment and its own power supply.

Freeline modular units can provide a controlled cuviron-ment, free of dust and bunnidity. and they can also be completely isolated and even moved to an area withoul static reference.

These units consist of a steel space frame with ring beam end nprights and box ply beams to provide a ceiling youd and sloped roof. The youd keeps down solar heat gain by venting the roof space and can also be used to house services and as an air conditioning plennin cbamber. Walls, which incorporate foam

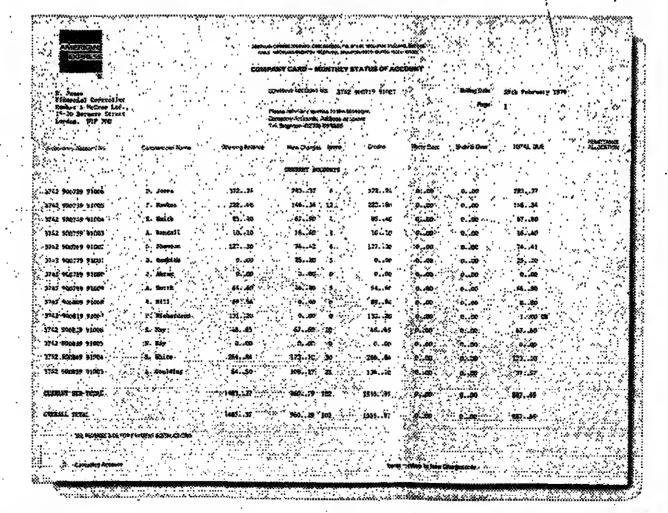
panels, or other internal finishes as required by the application. All joints - wall to ceiling. wall to wall, and wall to uprights — are thoroughly sealed and can be double or triple sealed to support positive or

insulation, are of Stelvetite

negative air conditions. Standard flooring is of welded vinyl, but other types of flooring can be fitted to the customer's specification. Ceilings are finished in either tiles or lami-

nated melamine board. Freeline modules, which can be joined together to give a variety of building configura-The thyristor is a heavy-duty tions, are delivered on site unit coming in voltage ratings of ready for rapid completion. 2,200 to 2,600 or 2,800 to 3,600 Where the customer requires it. modules can be folly fitted out

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Company/Name and Address

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THE JOBS COLUMN

A desperate, but 'hugely enjoyable' gamble

BY MICHAEL DIXON

AS THE clock neared six on Saturday night, the half dozen men who stepped up before the was in danger of being driven out of husiness by his compe-

All his previous experience, culminating in the profit improvements manager's job at Rank Xerox, had trained him againsi desperate gambles. But the latest marketing intelligence tempted him to try one.

Consumer demand was clearly voracious, probably considerably greater than the combined stock and production capacity of himself and the competing companies. Yet nobody was charging prices of more than £55

The idea of trying to exploit the surplus demand by raising his prices, suddenly became irresistible. He hoisted his charges everywhere to £63.

"It's no use messing about in this sort of husiness," he told me shortly afterwards. "You're either the best, or you're nowhere. If the risk I've taken comes off, then I'll beat them all. If it doesn't, they il trample

And, as it happened, they trampled. When the results of the seventh European managechampiooship ed at the Inter-

was in danger of being uriven out of husiness by his competitors from Sweden, Denmark and Ireland.

was in danger of being uriven were the national champions of the interest £5.4m had left their counterparts from Sweden only £51,000 behind in second place, and the Danish champions in third with £5.3m. Mr. Tomkin's rapacious price increase had left him cold stone dead in the market and, as UK champion fourth in Europe with a profit of £3.9m. The winners of this year's national competitions in France and in West Germany had both heen knocked out in the Euro-pean contest's qualifying round.

Single-handed

But there was much sympathetic applause for the Rank Xerox profit improvements manager. By contrast with the teams of four to six people which had come forward from the other nations, Neil Tomkin had been competing single-handed. single-handed.

So ended another aeries of the computer-hased manage-ment championships which have developed, and not just in Europe, since the first nationwide contest was staged in the UK in 1970 by the Financial

open for entry to the 11th UK championship in which play will start with the new year. It is an "all-comers" contest, hecause not until the final when all but four of the entries have been eliminated, do teams have to be physically present all in the one place; each of the previous knock-out rounds is played by post or, in case of need, by telex or telephone. The 1979 UK contest, won by Mr. Tomkin in July, included entraots from as far away as Japan.

When the entry lists for the 980 national championship close about 10 weeks bence the competing teams (there were 1,007 of them last year) will be divided by the contest's adminis-trators into "playing groups" each consisting of three, four or five entrants. All will receive a set of accounts and a market report representing a company and, at the outset of the first and each succeeding round of the competition, all the com-panies will be in the same husi-

ness poaltion. The product which these husinesses make develop and sell, behaves in the market like sell, behaves in the market like the computer which has been will receive £2,000 plus (wo days short of the market demand a consumer-durable, Nohody has programmed with a model at Management Centre Europe least half of the would-be buyet bothered to define the pro-

how much of their accumulated or borrowed cash to speed on expanding as well as running their factory. At the same time they need to decide how much to invest in marketing, distribution, research and development, management consultants of one sort or another, or even industrial esplonage.

There is also the problem of what prices to set in the various markets. In each playing group. every team has a home market In which it has the advantage of cheap distribution, and it can also sell in its competitors' home territories and in a "freetrade" market where conditions are the same for all teams.

Occasionally they may compete,
too, for a bulk order put out tender by the Government, as impersonated by the administrators of the contest.

When the team has made theso decisions, they are sent to the National Management Game's headquarters. There they are fed, together with the decisions of the other sides in the same playing group, into

print-outs showing each team in in Copenhagen. the playing group bow its ousiness has been affected by that particular "play." Every team then has to decide what to do next. At the end of five or six plays the round ends, and the team in each group which has accumulated the biggest profit goes forward to the next

War of wits

stage of the champlonship.

Readers who fancy their chances in this kind of battle of wits should inquire further of the Administrator, National Management Game, Victoria House, Southampton Row, London WCIB 4EJ—telephone 01-242 7806. No doubt, as usual, a high proportion of entrants will consist of players who have taken part in the past and they taken part in the past and they presumably know why they are willing to pay £75 for the privilege of repeating tho experience.

The attraction cannot be only the prize money which, for the next UK championship, will he

Charlered Accountants in duct more closely, perhaps changes io broad economic conthe the third £750, and the fourth England and Wales. And so because the players have been ditions, but also for strikes, £300. The champion team will begins the next series hecause, too busy deciding whether to factory fires and other tritial also represent the nation in the produce more of it, and if so, tions. The result is a set of 1980 European championship

As to other attractions . . well, employers have increasing programmes, and players who have reached at least the semi-fical—they generally play under pseudonyms up to that point—have told me their success in the game has certainly done no damage to their real-

But the most general attraction is probably typified by Neil Tomkin's enthusiasm for returning to the starting line again. Even though he had been trampled on in Europe, he said. he had onjoyed the woole thing

Next time, however, he will not be single-handed—the rules now require every entry to con-Nor will he again he so tempted to use the price-raising ploy which he adopted late last Saturday. No longer will the game's potential customers he absolutely determined to huy at any price. From now on, if supplies of the product fall generally raised. The winners if supplies of the product fall will receive £2.000 plus (wo days short of the market demand, at

Managing Director £20,000 p.a.+

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Preferred age is 35-45. Successful general management experience is essential, in a decentralised but systemised environment. MBA could be a plus. The ability to apply experience is more important than specific commercial or industrial background. Personal management qualities are paramount.

Write in full confidence with relevant details to John Fripp, as adviser to the

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Director Business Description

SERVICE INDUSTRY

for the UK operations of an international group and it is the control of the UK operations of an international group and it is the control of the UK operations of an international group and it is the control of the UK operations of an international group and it is the control of the UK operations of an international group and it is the control of the UK operations of an international group and it is the control of the UK operations of an international group and it is the control of the UK operations of an international group and it is the control of the UK operations of the UK operation of the UK op hold name, and with plans for substantial expansi

- THE ROLE is to mastermind the profitable growth of the mastermind the mastermind the profitable growth of the mastermind the profitable growth of the mastermind the mas subsidiary companies and to plan and direct business care and an analysis and to plan and direct business care and an analysis analysis and an analysis and an analysis and an analysis analysis and an analysis analysis anal including acquisitions.
- THE REQUIREMENT is for a demonstrable record of success in general management and development in a service industry. Proven competence in dealing with people, in marketing, and in financial appraisal is essential.
- TREFERRED AGE 35-50. Salary negotiable to £20,000, with substantial profits participation in addition.

Write in complete confidence to A. Longland as adviser to the group.

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Qualifications to Chartered Accountant or M.B.A. level are: essential, backed by extensive knowledge of modern management systems. An age range of 30-40 is envisaged.

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The appointment is for a lawyer ideally in his thirties having substantial commercial experience covering the following: Securities, (Corporate and International), Company Work, Taxation and General Commercial.

weeks leave for the first two years, six weeks thereafter, with return air fares to England after two years. Accommodation will be provided,

Initial interviews will take place in London during early October, with the appointed candidate, and his family if relevant arriving on site in early 1980.

Applications will not be passed to our clients without express consent. Apply in confidence to A.F.P. Balls, Reuter Simkin Limited, 307-308 High Holborn, London, WCIV 7LL.

Reuter Simkin

Initially the engagement will be for two years though it is hoped to extend this by mutual agreement prior to expiry. The terms and conditions reflect the seniority of the post and will include a salary in excess of £25,000 p.a. with additional benefits including four

FCA, 49 in the projection, partner in Air.2. Would like to return now to Currier Good knowledge of Spanish and knowledge

Director of Finance (Australasia)

The Sea Containers Group, the leading international container, crane and containership lessor, wishes to appoint a senior and experienced Financial Executive to take responsibility for the financial affairs of the Group's activities in Australasia. These comprise commodity . trading, depot and equipment repair facilities, warehousing, as well as the Group's traditional involvement in container leasing, ship chartering and

other shipping related matters. Responsibility will be directly to the Sea Containers Group Chief Financial Officer who is based in London. The successful applicant will work closely with the Group's senior management in the various Group Companies in Australasia and will have functional control of the financial and accounting activities in those units.

Candidates must be qualified Accountants with sufficient commercial experience to advise the Australasian management on contractual and other financial matters and to assist in the appraisal of new projects and investments.

Preferred aga 35-50. Salary and benefits will be commensurate with this important appointment within the Group.

Please send a comprehensive summary to:-The Personnel Manager, SEA CONTAINERS SERVICES LTD., 1 Hanoyer Square, London W1.

sea containers 🗸

SCANDINAVIAN BANKING

Landing international bank is looking for a candidate to jeln its Shipping Ovision. Applicants must have a good first degree and/or MBA, with a minimum of 2 years experience in the effects Shipping Industry in the Scandinavian market. He or she about also be fiven in at least one Scandinavian language and, preferably have a good knowledge of both the U.S. and Scandinavian occounting, legal and regulatory environments.

Salary is negotiable, according to experience. Please opply in writing to Saroh Orwin. Recruitment end Manpower Planning, Citibank N.A., 336 Strend, London WC2R 1HB

DEPUTY GENERAL MANAGER

(FINANCIAL SERVICES)

is now required to take day-to-day charge of an expanding organisation operating in the retail financial market with a head office and branches in the West End. Applicants should be able to show good managerial experience in a marketing orientated company and have had some banking and financial experience. AlB preferred. Salary and conditions are negotiable.

Apply with detailed C.V. to Bex A.6903, Financial Times, 10 Cannon Street, EC4P 4BY.

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Leading U.S. international bank invites applications from suitably qualified public relations specialists for this London-based post. Candidates ideally should have a minimum of five years' experience in PR, with a particular knowledge of financial press relations. Experience of financial journalism followed by a period in a PR agency would be equally rolevant. Salary c. £9,000 plus aubstantial benefits.

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APPOINTMENTS WANTED

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will be retiring soon after a successful carear as chiel executive officer and company director. Will then become available for assignments in U.S.A. as representative/consultant to UK firms or highly-retad individuals.

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Apply Box F.1148. Financial Times 10. Cennon Streat, EC4P 4BY.

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Salaries £6,500—£9,000 p.a.

In line with continuous planued programmes of expansion, the Accounting stem of ITT Components Group, one of the world's fastest growing Electronics Manufacturing and Distribution . Organisations, has several vacancies at various levels to strengthen its existing team of professionals. Because of the importance of the Group's Financial Division, there are excellent promotional prospects in an environment of highly Advanced Management Accountancy Techniques, to provide a long

lasting and rewarding career.

The need calls for qualified ACA, ACCA or ACMA, aged 25/40, with some experience in Financial Analysis, Financial Control or Management Accountancy, preferably in an industrial environment. Recently qualified or part qualified candidates with relevant experience will also be seriously considered.

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The appointed candidates can expect substantial benefits to include generous relocation expenses, pension scheme, siekness and accident benefits, excellent social facilities and others normally associated with large International Corporations.

In view of the urgency to complete this assignment, interested candidates are invited to obtain further details and a confidential Personal History form by immediately telephoning
Alexandre J. Hakim M.Sc. M.B.A. or
Brian Worthington F.C.I. S on 01-734 9035, quoting
ref no. L1376

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PERSONNEL DIRECTOR

EUROPE

A major soft drink organisation with business interests throughout Europe wishes to recruit a Personnel Director who will be responsible for all aspects of personnel management in its responsible for all aspects of personnel management in its different subsidiaries and organisations. The duties will cover policies and procedures, manpower planning, recruitment, selection, evaluation, training, salary and benefits administration. Headcount numbers approximately 250 with a very high percentage of executives. Up to 70% travel time in Europe and the U.S.A.

Applicants should be in their thirties with a proven record of personnel management in a multi-national organisation, following modern personnel policies. They should hold a degree, and perhaps. M.B.A., with specialisation in personnel related subjects. Proficiency in languages essential, German preferred with Spanish and Italian a plus.

Salary negotiable but at a high level. Generous bonus scheme based on objectives. Company car and hospitalization scheme

The post is vacant now and should be filled immediately. Applicants should write with details of qualifications and career to: G.J.R. Box A.6905, Financial Times, 10, Cannon Street, EC4P

اهكذا من الدم

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The Finance Department is no exception—we're now looking for a qualified Accommant with hoost government experience to join our highly experienced and

entraspasse ream. This is a bighly chellenging position and in addition to assist-ing with the day to day running of the department, you'll be re-quired to listise with all levels of Management, as well as members of the Council. You'll also be ex-

pected to attend a variety of Council meetings. This is a great opportunity to develop your accounting and managerial skills to the full and to experience a highly attira way of life. The Shetland Islands, well-known for their excellent educational facilities and com-munity spirit are ideal for build-ing a home and ominging up a

in addition to an excellent salary, we offer good conditions of em-ployment which include a generous mortgage interest sub-sidy scheme, and reimbursement of all removal expenses (less

For an application form write to the Chief Executive (Personnel), Town Hall, Lerwick, Shetland Islands. Or telephone 0595 3535 ext. 205. Closing date for applications is 28th September 1979.

SHETLAND ISLANDS COUNCIL

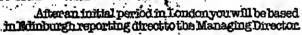
Senior Marketing Executive Leasing & Asset Financing-Scotland and N.E. England

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management and should appeal to the bright young qualified accountant seeking broad experience in order to make rapid progress. Our client is a manufacturing company, tumover £2.2m, which is part of a highly successful private group providing services and equipment to the printing industry. Under the direction

This appointment offers immediate opportunities in line of the Financial Controller you will manage a medium sized department and be responsible for a wide range of activities including both management and financial accounts and their analysis and interpretation. The identification and introduction of computerised systems together with the fine tuning of existing procedures will add to the challenge of the role.

E. Sutton, Ref: 17086/FT.

Male or female candidates should telephone in confidence for a Personal History Form to: LONDON: 01-734 6852, Sutherland House, 5/6 Argyll Street, W1E 6EZ.



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CORPORATE TAXATION

An interest in management at the arrival of the control of the con

CHIEF ACCOUNTANT

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Reporting to the Chief Executive, the Chief Accountant will be responsible for all aspects of accounting with emphasis on the further development of information for management and project evaluation.

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analysis.
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The Institute has its own pension scheme and other

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€ £8,000

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CORPORATION

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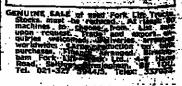
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For more than a century thia inauguration, Cunard's ships vied with the most luxurious vessels in the history of navigation to record the fasiest passage on the North Atlanlic, and so win the right to fly the "blue rihand."

Today, the blue riband is a prize not worth the pursuit. Its holder, the United States, a. magnificant steel and aluminium troopship cnm passenger liner built in 1950, languishes at berth in Norfolk, Virginia, technically on standby for military duties, but hopelessly uneconomical for her commer-

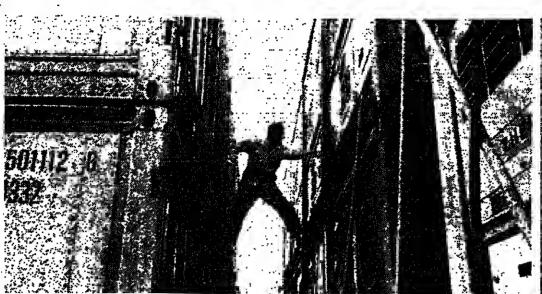
The price of fuel has ensured that the 40 knots which took her on her maiden voyage from the Ambrose light, New York, to days, will not be surpassed by any merchant ship of existing

But the end of the days of ecord-busting has not, for Cunard, meant an end to intense concern with configurations of speed, design and operational economy on what remains one of the toughest aea routes in the

Part of this concero, of around 90 ships competing for course, is with Cunard's QE2, cargo which 50 vessels could the last passenger liner ruoning between Southampton and New York, but of much greater cial onslaught by the U.S. significance is the company's authorities against the Atlantic stake lo the transatlantic cargo

The Atlantic Conveyor, one of ward spirals in the price of four Cunard ships in the Euro- marine fuel, whose quality has peao Atlantic Container Line consortium, is not built to be deteriorated. the fastest ship in the water; her intended 24 knots were cent of the Atlantic Conveyor's carefully measured to permit approximately \$7,000 a day the ship to call at three ports running costs is now used up on each side of the Atlantic but in filling her tanks twice every still fit into ACL's weekly ser- round trip with "bunker

it is, or at least it was, rich. In operate. Four years ago the pro-



The Atlantic Conveyor at sea. In mid-ocean (left), Jim Gladstone, the vessel's chief officer, checks that refrigerated containers full of Dutch bulbs are functioning correctly

1973, the volume of trade increased by one-third and in the space of only 13 years, the techto wrestle with these negative nology of container sation and roll-on roll-off shipping (the Atlantic Conveyor offers both) ecocomic factors at a time when competition, from Russian lines among many others, is getting tougher, that will deter-mine their shape at the end of has developed from scratch in a rough and tumble of rivalry onmatched since the heyday of the

owned Cunard since 1971, has already sold off its bulk carrier fleet and aimilar pressures have caused a 25 per cent reduction in Britain's merchant fleet in the last four years. If Britain is to remain a major maritime power, it is the liner interests such as those in ACL which must provide the bedrock. This gloomy message has cer-

tainly got home on board the at the same time seriously Conveyor, where a principal subject of conversation among ACL estimates that 61 per the 33 crew is the threat to jobs and the squeeze on funds for ship supplies. Just before I travelled on the Conveyor, a Cunard economy-bunting team bad been on hoard. c on the route. the sludgy substance on which The trade is tough because her steam turbine engines There are not a lot of obvious trimmiogs to cut. The Con-

portion was 42 per cent. It la name implies, is built for weeks earlier, on Cunard's and ACL's ability making money rather than to Smaller thi stero itself is rudely abrupted by an ungainly boisted ramp for

Trafalgar House, which has wiscellany of heavy when the first house and a line 1971, has lready sold off ite both. cargo, from bulldozers to yachts. In addition, she can handle 845 20-foot boxes, four layers of which are lashed to the ship's decks with buge, surface galvanised rods.

> On this voyage, a sign of the times as well as the season, she is carrying only around half her maximum 10,000 tons of cargo. hnt unlike an American competitor we see steaming into Rotterdam, ACL has oot takeo the trouble to arrange deck almost permanently on the boxes in a fence-like formation bridge and makes do with to disguise empty spaces.

The period in part is frantic as schedules make little allowtrimmlogs to cut. The Con-timetable after fracturing a weather and lo winter often inveyor, as ber matter of fact propellor in mid-Atlantic a few volves a night spent backing

Smaller things go wrong all provide a graceful abape on the the time. In Le Havre, where horizon. Her 212 metres are just six hours have been divided on the sternward side allowed for cargo movement, by a seven-high cluster of decks the ship's main hydraulic system fails, immobilising ramp access to lower decks. Using a fork-lift truck, block and tackle and six pairs of arms, the 165

> day is 11 hours (eight at weekends) and it is not surprising that even when the ahip makes an overnight stop at Rotterdam, few go ashore. The 11 hours involves a split shift, spent either scraping rust, painting, watch-keeping, securing cargo or working in the engine room. For senior officers, the pace is less regular, but often equally demanding. Io the congested Channel waters, the captain is

around five hours of sleep a day. It is a matter of opinion who has the worst job. Deck work, ance for problems and Atlantic even in summer, is subject to Conveyor is already behind the rapidly changing Atlantic

hefore entering New York. The other candidate for worst joh is in the engine room, where four two-storey boilers and a labyrinth of hiss-ing, grinding pipes and pistons turkish hath with grease instead

Sluggish

ACL seamen, in fact, have a purpose agreement which means they can be asked to work anywhere. Their reward is higher than average pay-£5,500 for a middle-grade aeaman, including overtime. This figure is slightly higher than a juoior officer's pay and belps explain wby there is so little transition between seamen and officer grades.

The Conveyor's engine room is currently a source of some pride, with the 10-year-old ship consistently achieving speeds of between 22 and 23 knots, since was discovered that earlier sluggishnes was caused by contaminated boilers. The source of the contamination was poor quality-notably Venezuelanhunker C, whose deposits have

to be chipped from the boiler

common consent, probably the nastiest job of all. Boilers

should require cleaning only

少沙心

operational problem for ACL, which is now trying to decide whether to re-engine its six Conveyor-class shipa with less thirsty diesel motors. It is also possible that the ships will be cut in half and extended to create more cargo space. This would be an expensive operatioo, but perhaps cheaper than the \$30m It would cost to replace the ship. The Conveyor cost \$11m in 1969.

A new engine would save perbaps 30 per cent on fuel, but would mean extra mainteoance and more time in port repairs. At present, most repairs are done by the crew at sea, a task which becomes more difficult as the machinery ages.

These are the circumstances in which officers and crew are resisting owners' efforts to reduce further manning scales. The Conveyor's chief engineer points out that 10 years ago a ship with less than half the power of the ACL vessel had 38 alone, cumpared with the Con-

Likewise on deck work, the men argue that th climinate the officer in charge of cargo would create unacceptable risks of cargo damage in had weather. The captain remarks, with no apparent nostalgia, that the days when the master bad a steward to put hia socka on are well and truly gone.

Apart from these anxieties, most of the crew would not change their lot. Pay is reasonable, leave accounts for about a quarter of the year, food is good and accummodation reasonable. For the scamen, discipline is also much closer these days to that found in an ordinary factory.

Meanwhile on shore, ACL, like most of the big liner ship-ping companies and especially those on the Atlantic, is struggling to keep its cargo rates to line with inflation. A 10 per cent increase posted January has been almost completely croded by customer On top of this problem, ACL has in recent months had to

fecs because of its brushes with the U.S. authorities, who mainis allowing the liner companies easy profits. As a consequence of this judicial aggressinn, ACL and others are now also facing a string of civil damage suita, whose potential magnitude is

In these circumstauces, Philip Bates, chairman of Atlantic Container Line Services, the Southampton-based lynch-pin of the consortium, needs all the encouragement of a century and a half of Cunard survival on the route. Inscribed upon a ailver ashtray in hla dockside office is a favourite saying of his uncle, Percy E. Bates, a former chairman of the Cunard The future may contain anything, but for myself I carry on in a spirit of reasonable but cautious hope.'

PROFESSOR Friedrich ment "Tbey were so frustrated," he recalls. "They came in ancial officer at Volkswagenwerk AG, has found a sure-fire degrees, but didn't know where way to keep learning—he to begin. They bad to take a teaches. "I always waoted to back seat to trainees who'd avnid heing a country doctor," come fresh from secondary Thomee explains, "going out to school but had spent several practice and never touching a years on the job. book for 20 years. But because Being a man of action, there's a lot of things I'd rather Thomes buttonholed university

Since 1974, economic reces-

on profitability, with

sion, more severe in shipping

than elsewhere, has put the

comfortably carry, Adding to

the difficulties has been a judi-

shipping companies joint price-fixing system and a series of up-

latest academic work on account- courses couldn't be more prac-ing, I've found that teaching tice-oriented. Whereupon the ing, I've found that teaching tice-oriented. Whereupon the provides a very useful incentive University of Giessen, a for keeping up-to-date." renowned institution located in

. Thomee says be began giving a little town north-of Frankfurt regular university lectures five invited the motor inustry execuyears ago, not for his own hene-fit, but because he felt sorry for tice should be taught. In the many of the graduates who came winter semester of 1974. Thomse to work in VW's finance depart- who, as a stadent, had studied

he doesn't normally do so. Thomée, whose course of

This year, he is negotiating with the St. Gallen business

Volkswagen whose title is far from academic

Darrell Delamaide on the German businessman-professor at

Preaching what he practises

is considering how to divide his

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at Giessen and began giving lec-tures and leading discussions every other week.

Many German executives-for

instance, all three chief execu-tive officers of the Big Three German chemical companiescarry an honorary professor title, but most of them confine their professorial activities to an occasional speech. Thomée not only lectures regularly but is the only top business execu-tive known to be entitled to preside over examinations and direct dissertations - although

study takes place only in the winter semester each year, is conducting a five-course cycle at Giessen — accountancy as a means of corporate planning and documentation, controlling. corporate planning, all three activities at corporate group level, and all three in the con-text of an interoational corporate group.

tive-professor, and now Thomée 35-year-old men reciting their ing," he claims. lecture in a monotone. They

and jovolvement demanded in practice. Last May, at VW's management can keep one headquarters at Wolfsburg oear younger and livelier." Hanover, his company hosted

ment. Thomée feels that for his burg part be bas gained much through the discipline involved io teaching. "It's part of the institutes in Germany, speot reason that VW now has an two days exchanging ideas with under Karl Schiller, the former school. A group of St. Gallen he first saw some of his new super-minister in Bonn, was students spent two days at VW professorial colleagues in the made professor honoris causa beadquarters with the execulecture hall. "You would see incorporating the latest think-planned for next May and the

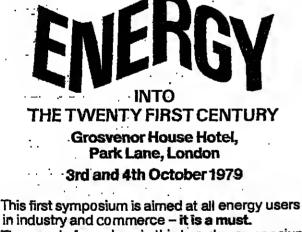
time between the two schools. put in their 50 minutes and ways of increasing the inter-the v. He recalls his dismay when that was it. I think the stress action between theory and tion.

Hanover, his company hosted Still some years off retire- the second round of "Wolfs-Talks." Twenty-five academic experts in finance, from universities and research institutes in Germany, speot

annual talks under Prof. Thomee's tutelage are well on He is now promoting other Thomee's tutelage are well on ways of increasing the inter-



graduates in his finance department.



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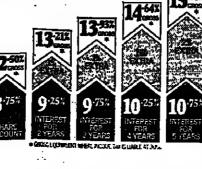
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Full disclosure by the banks

BY MICHAEL LAFFERTY

ing practices of the British the London and Scottish banks continue to plague users clearers agreed to give up their of accounts. The latest contri-bution to the debate comes from the same time the Companies IBCA, the banking analysis Act was amended, by statutory group which sells its research to banks around the world, clearers privileges. IBCA's 1979 statistical compariuseful document, as far it goes: as the authors admit, "the figures from which the ratios are derived lack sufficient precision and comparability, because of reporting methods, for the resulting rank-ings to be regarded as defini-

In a similar report last year IBCA declared that the general standard of disclosure in the annual reports and accounts of British banks was "inferior to those in other important bank-ing systems." Despite some effort at improvement by the clearers, the same comment is still said to apply. "Relative to the U.S., UK disclosure remains poor and banks in many European countries provide far more detailed data than are available here."

Judgments

IBCA's criticism applies as much to the presentation of items that the hanks already accept should be disclosed, as to the general level of information banks seem to take the point that more public information about their operations is justified, they do not use a uniform standard, and widely differing conventions are still apparent the presentation of both balance-sheets and income state-ments, demanding many analytical judgments before compara-

tive analysis can be done." Starting with the clearers and other major banks, IBCA says it is still the case that the large Britisb banks provide less detalled income and balance-sbeet informatioa than most other banks analysed. It concedes, however, that the rather sparse information provided by the British banks probably has greater substance than that pub-

lished by many foreign banks, national supervision of banks.
The truth is that the UK through the Group of Ten. It authorities' approach to baok is also extending its own writ accounting and disclosure re- to the foreign banks in London. quirements appears to have For this purpose it needs neither theme our reason, reliable accounts, if only to Until 1969-70 all British banks check that the detailed data it enjoyed the right to have secret is receiving ties in with what is

THE CONTENTIOUS account- Board of Prices and Incomes, instrument, withdrawing the

In recent years doubts have son of 78 British banks is a been cast on whether the useful document, as far it goes: clearers really did adopt full as the authors admit, "the disclosure of profits and reserves after all. Uncertainty centres in particular on the banks' general provisions for bad and doubtful debts, which many observers now believe bave more the character of re-This view has been further encouraged by the rerent Bank of England draft programmes now available as paper on capital adequacy pre-recorded cassades. Nearly which said it was the Bank's intention to treat general provisions as reserves for prudential

> The clearers apart, it would appear to any reader of the Companies Acts that all other banks are entitled to the exemption, which permits the creation of aecret reserves. But this turns out not to be the case. The Department of Trade says that no application for exemption has been granted since 1969. Does this mean that it is the department's policy not to issue any further exemptions? Not so, says a spokesman. "It simply means that no applicant since 1969 has met our criteria. What are the criteria then? "They are not published," said

> the spokesman. In practice this means that there are probably three separate categories of UK bank for accounting and disclosure purposes. This hardly seems sensible for a country which boasts the world's most important banking centre. It is all the more anomalous because the banks which operate in London depend to a considerable degree on the published accounts of each other in assessing risks.

It is also illogical at the supervisory level of the Bank of England. The bank, quite rightly, is in the forefront of moves to improve the inter-national supervision of banks Then. following available to shareholders and pressure from the National depositors.

Switching on to channel five

without the strike-bound ITV kind of picture quality achieved. channel, many viewers have complained about the dull output of BBC1 and BBC2. in desperation, some owners of videocassette recorders have not be disappointed by EMI's been trying to sift their way offerings—The Third Mun, through the rubbisb by record—Whisky Golore, The Servant, The Lavender Hill Mob (the ing better programmes on the auto-clock for later viewing.
The trouble is that there haven't been enough "better" programmes to record—leading to the quip that it was "the BBC's way of discouraging illegal TV recording."

Reissues

A few videocassette owners have, in consequence, started to take a more serious look at the all are reissues of feature films or rather dated television programmes, but a few bave been made specifically for the socalled videogram market. Since a number of these bave been bailed by their distributors as " Britaln's first-ever videogram (and I have seen many such firsts since 1972), perhaps I might be excused for adopting the same rash and reckless claim by nnw writing the world's first review column of videocassette

television programmes. Still few reissues if only to see the

televisual summer is bardly exciting. Viewers: of Sunday afternoon movies on BBC would latter could also have been seen on BBC in the last week). Brighton Rock and so on. Good stuff, but definitely of another era. Meanwhile I viewed parts of their more recent Swallows ond Amazons (a 1974 film) which was screened on British television not so long ago.

It is a balmy story of children on boliday in the Lake District in the late 1920s. Certainly a decent substitute for some of the off-air. American TV-crime rubbisb currently on British tele-vision screens. But who would pay £40 for such a substitute (the current videocassette price in Betamax and VHS formats)? Better to rent movies wherever possible, but the range available on rental is limited.

One rental ontlet is Intervision, which offers feature films oo cassettes at about £5 for the first three days. But the choice of good or significant films is limited — Cries and Whispers, Negatives, Orson Welles' Mocbeth are some of the few that gardening programme stuff, with it still looks like a rather good Bill—The Story of a Heron, stand out. As a sampler for Michael Barrett looking on and broadcast television programme. This is a sheer delight to watch,

feature film reviewer obviously The same kind of thing can be music is the speciality of because after 15 minutes i gave seen on television, and with another British vidrogram up; we have been here before hardly any difference. Nicely distributor, VGL, whose own The choice during this bleak

American crime TV movie. really was made specifically for vicwer's mind.

With greater expectation. I many gardening programmes) turned to ripping off the shrink- and excellent low-key interview-

FILM AND VIDEO

BY JOHN CHITTOCK

strip routine on a small, astin-Panorama or some other good draped stage. But 1 must com- old reliable. draped stage. But 1 must commend the good camera work and excellent colonr quality which was first-rate—and in this case a critical test because in in checking colour quality the engineers always look for flesh tones first.

Never mind, I do have a great love for gardening so Michael Barrett's New Life in the Gorden bad a much healthier attraction. This is straight TV

EMI has done much better King's College, this has all the may have seen it all before; beauty and pictorial excellence likewise Ski, and Wimbledon one would hope for: a very 1977. But for me, the great professional job (but the sound delight was a sponsored film track on my copy a little down in volume level). This programme was made specifically for the videogram market, but

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on television. It has all the shot, good colour, a better-than-first videocassette exclusive, soup-stains of a cheaply-made average use of close-ups (which Tine Turner of the Apollo, is are so frustratingly absent from again very familiar in its style; an echo, rather hollow, of Top of the Pops. I did not rate this plastic wrapping on Intervision's ing by Barrett-who only in- anything like as good as the The Great British Strip. This trudes at the very moment when broadcasters do and found the is one of the videograms that a question seems to loom in the overall technical quality less than impressive.

> The worst technical quality of a generally good batch came in The Lucky Jim Adventure Fishing Show, another Intervision programme and again obviously an American TV re-release (complete with fades where originally the commercial breaks were inserted). Dull, slow and not very informative.

videocassette viewers. I hope I So far I have to confess that The best I leave till last, a am not setting old, but it left my fifth channel viewing has sampling of IPC Video's range none the less left me waiting which is mostly hobby and So far I have to confess that . The best I leave till last, a which is mostly hobby and rather plump ladies doing a for the Nine O'clock News, leisure interest material. All of this is reissued material of either television programmes or documentary films but all wellwith its own "first-ever" chosen and first-rate viewing. videogram—Christmas Carols The British Open 1977 is comfrom Cambridge. Made at pulsive for golfers even if they king's College, this has all the may have seen it all before: that has been available on 16mm for some time, a masterpiece from the Royal Society for the Protection of Birds, Big

THERE SEEMS to have been. As far as possible, I tried to my own viewing, I took a film little disagreement in Britain obtain programmes made specific from their "Action Adventure" the Royal Horticultural Society the BBC twice around Christ that follows the life-style of one garden at Wisley demonstrate series; grippingly titled The garden at Wisley demonstrate sowing, pricking out, and so on.

Love Butcher. I make a poor line symmetry that follows the life-style of one series; grippingly titled The sowing, pricking out, and so on.

While is the speciality of atmospheric sound effects of the speciality of atmospheric sound effects of the speciality. countryside and a nicely-muted commentary; it is one videocassettr that I would buy to view again and again.

Nevertheless, this exercise has left me dismayed. If videogrom publishers and distributors can offer no real olternative to the broadcasters, they might as well give up. During the last week an broadcast television. I was still able to pick up a few isolated gems (such as a brilllant BBC documentary about a Northern meeplejack). Only the heron videocassetle could equal this.

Own style

To complete with broadcasting, the videogram must offer the singular, the genniue classic. It must also develop a style of its own rather than nicrely imitate what broadcasting does so much more professionally.

No doubt in time this will bappen. Meanwhile, it is at least encouraging to report that the technical quality of all of the copies I viewed was generally of a very high standard; no ordinary viewer would ever know the difference alongside a broadcast transmission. Now that the videogram industry has got the form right, it must devote much more money and imagination to the content.

Riboule can win Belvoir Stakes

Beevor Stakes, she will have greatly increased her paddock value by this evening.

Riboule, a three-year-old owned by Mrs. Cyril Seymour-Newton, is a daughter of Ribero and a full sister to Ribac. She is also a balf-sister to two extremely smart per-

RACING

BY DOMINIC WIGAN

formers of recent seasons-Sheheen and Olympios. She was out of the running in two maiden events at Newmarket last season, but ran far better on her only outing to date this

At the one tille three furlong Bracknell Stakes at Windsor nn September 3, the Bruce Hobbs-trained filly surprised bookmakers and puoters alike by keeping the S-1 on Ivatan

IF RIBOULE wins today's (her only rival) at full stretch shire, some bookmakers remain opening event at Yarmouth, the right to the line. Matches often prove mislead- colt at the forefront of their iog. and Riboule did have an Cambridgeshire lists. 11 lbs weight advantage. But a one-and-a-half length defeat

the bands of a colt which Fulke Johnson Houghton had allowed to race in the Prix du Jockey-Club was no mean effort. Riboule is sure to be all the better for that run. She is equally certain to find today's additional three furlongs to her liking, and can beat Foolisb

Another sound proposition on an afternoon when panters may fare better than their opponents is Hanu, among the runners for Lingfield's nine-runner Surrey Stakes. This Scobie Breasley. trained youngster is reported to have improved tremendously since coming in fourth behind Bruce Lee.

Although It has been common knowledge among profes-sionals in the betting world for at least four days that Rio Carmelo is 99 per cent certain NOT to run io the Cambridge-

It was particularly appointing to see the sponsors of that event, the William Hill Organisation, yesterday quoting the Riverman colt a 12-1 joint favourite for their Newmarket

Rio Carmelo will, if all goes according to plan, run insin Ascot's Cumberland Lo Stakes.

3.00--Wetthi

3.30-Precions View

4.00-Truly Blessed

4.30—Body Blow 5.00—Hann***

YARMOUTH 2.15—Ribonle**

2.45-Wanderlust

3.15-Hot Match

3.45-Druim!ads

4.15-Miss St. Cyr 4.45-Atlantic Connection

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GARETH NUNT IN IRA LEVIN'S
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"8EST TNFILLER." Dnity Telepraph.
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"A TVICK OF MUSICAL MAGIC."
NOW THIS STUNNING OCCASION.
THE 3EST SRITISH MUSICAL OF THIS
YEAR AND A FEW GONE SY. FIR.
TIMES "VERY FUNNY. OFTEN
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LIGHT 3 EVE SININGED. "THE CAST
IS BILDLIANT." EPP. NEWS.

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PTC. WEd. 6.00. Opens Their, TOG. Slobs
BOO Mat. Saft. 230. THE PASSING
DUT PARAOE BY AND VAIETY.
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EVENIOS S.CO. WED 2.26.

SAI. 4.30 and 200.
GERALD STEEL OF BLOOD
THE SHELDCK NOLMES MYSTERY
THE CRUCIFIET OF BLOOD
"The kind of spectacle I crimot retail,
since by Mond. 1. Jerific slaft." E. News.

NER MAJESTY'S. CC. 01-930 6505.
EPS. 8.09. Mats. Wed. 3.00. Sat. 415

NER MAJESTY'S. CC. 01-930 6506. Ergs. 8.00, Matt. Wed. 3.00. Sat. 4 15 THE CASE OF THE OILY LEVANTINE BY ANTHONY SHAFFER

KING'S NEAD.

Olinner et 7.30. Show al 8.30.

BITS OF LENNY ERUCE

"SHEER GRILLIANCE." TIME DUL.

AN EVENING DE SHEER RAND

TIVE RICHNIGHT." CAUGHTER AND

"WITTY PROVOCATIVE SHOW "E SEG.
"A FUNNIER EYENING TOPE! I CTURO
EVER IMAGINE SPENOING WITH

LENNY BRUCE NIMSELF." What's On.

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"TWO RARE AND SUPPEME
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SUSAN NAMPSHIRE PATRIC MOWER
NIGHT AND DAY
A AN DISY BY TOM SYOPPARO
Directed bu Peter Wood
6FST PLAY OF THE YFAR
Evening Stangard Drimin Ayard Exening Statigard Orimin Award

PUCCADILLY. From 6.20 am int. Streat

nat Asos. Cc bookings 6.56 10Tt

Evs. 3. They's, 3 and 8. Sat. 5.50 6.50

PETER BRAKWOPTO 6.6.30

HANNAH GORDON

IN BYIN CLIAR'S POW MAY

CAN YOU MEAR ME AT THE BACK?

"WONDERFUL MAY WITH WONDER.

FULLATE AND WITHY." II. EVO.

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ROYAL COURT THEATHE UPSTAINS, T30 2554, Free Ton'l T30, Cona Tomor T. Subs 7.50 GOCOL, written 5, per-formed by Richard Crame. ROYAL COURT. 73D 7745.

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THE GORKY BRIGADE
by Nicholns Withh.

Fine invention production. F. Times. ST. CEORGES—The Only Elembelland 73, Totale Park Road, NY, 607 1125, Evelands 7.30. Ton't to Sale, 1125, Evelands 7.30. Ton't to Sale, 1125, Evelands 7.30. Ton't to Sale, 1121, 1125, 1121, 1125, 112 Mntince Wed. 5.III. and GREAT YEAR.

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Best Musical of the very 1478." E. Sland.

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Inot: suitible for Chi'drep). In a year statisted of Sood plays howard Bereation; Scre Throata is certainly an event." Gets. Adv. Serv. Throata is certainly an event." Gets. All sees. 52.10. Stadents £1.10. Adv. byss. Adv. Co. Stadents £1.10. Adv. byss. Evgs. 7.45. Mais. New 1 World; FOURTH GREAT YEAR.

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CINEMAS ASC 1 and 2 Shaltesbury Ave. 836 6551. Seq. Peris. All sears booksbie. 1. THE DEER NUNTER (X). Wi. & Sea. 2. The DEER NUMBER (X). Wi. & Sea. 2. PHANTASM (X), Wk. & Sun. 2.00. 5.50. 6.20.

THE MOYIE IUI, Progs. 12.10. 5.15, 8.05 to. Progs. 12.16, 2.35, 6.05 to. Progs. 12.16, 2.35, 6.16 to. Progs. 12.16, 2.35, 6.16 to. Progs. 12.16 to. Progs. CLASSIC LATER SALES AND SALES AND CLASSIC LATER SALES AND SALES AN Children.

CLASSIC POLY. Oriend Cress-report
Regent Streen, 637 9863, LAST R DAYS!
Victorif's THE INNOCENT (K), Progs.
3 00 S. 30, 6.05. 3 00 S.30, 6.05

CURZON, Curzon Street, W.1 499 3757

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Press 2.00 (not Stun), 4.00, 6.20, 8.50,
A5 nort sorteen in 5 one could seek

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Evening Standard. Evening Standard.

LEICESTER COLLARS THEATER 930 5252.
THE CHIRA SYNIRDINES (A), See, seous. Ill., 1.15, 4.93, 5.15, See, sous. Ill., 1.15, 5.15, See, sous. Ill., 1.15, 5.15, See, sous. Ill., 1.15, See, DBFON LEICESTER SQUARE (930 5111)
ALIEN (X), Son Peria, dant doors open
12,30, 4.00, 7.00 Lato Night Show every
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bible. In adv. 11 Roy Office or by past,
MDONRAKER IAI, Son Peria, Wide,
12,30, 4.20, 7.45, Swenty
cer' & Wookends bible in advace. PRINCE CHARLES, Lot. So. 437 E181.
Final Week.—Ends Sept. 19
EAGLE'S WING CA.
Sep. Peris. Div. 2.45. 5 55. S. 55. Sept. Sept. 19
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Sep. Peris. Div. 2.45. 5 56. S. 35. Sept. Sept. 20.
World Premiere Presentation.
SCHM 19. SOC Office Open—Sock Now.

GARGOYLR, 89 Dem Street, Londoc, WI-NEW STRIPTEASE FLOORSHOW 11-3-30 am Shows Technologist and 1 Me. Mon.-Fri. Closeo Satordows, 01-437 5435.

indicates programme in

and white. 6.40-7.55 am Open University (Ultra high frequency only). 9.35 For Schools, Colleges. 12.45 pm News. 1.00 Pebble Mill at One. 1.45 Ragtime. 2.00 You and Me. 2.14 For Schools, Colleges. 3.20 Pawb Ye Ei Fro. 3.53 Regional News for England (except ondon). 3.55 Play School (as PRC 2 11.00 am 1. *4.20 Champion the Wender Horse, 4.45 Buford

6.20 Nationwide.

10.20 The Bear Next Door.

and the Fifth Dimension. 11.40 News Headlines/Regional

F.T. CROSSWORD PUZZLE No. 4,076 23 25

ACROSS

1 Crazy dress for nearly every- 8 Depression or trouble in 5 A pick-me-up leaves us with- 11 Hare the inclination one in song (8) out stress (6)

9 If their sides go down, they 15 Musical instruments for neat may go too (8)

10 Carnival throws out a 17 Gives bigh praise and number who are sensual (6)
12 Uneasy abroad (3, 2, 4)

as he was (5). 14 Colonnade of philosophy (4) 20 A bird to collar (4) 16 A song indeed put off (7) 19 The tenant about one living on invested iocome (7)

21 Sounds an excluded poet (4) 24 Greek islander gets the Scot to church (5) 25 Fatter, like a completed application form (6, 3)

27 Mars yields its plunder (6) 28 Retreating like faulty nylon 29 First public tenure means to give satisfaction (6)

30 Main Catholic he's trying to find (8) DOWN

I Importance of a sign in the meantime (6) 2 Indicate negative in the

river (6) 3 Entered with unminted gold? 4 Golden disc but not for pop-

6 Shelley met one from an antique land (9)

ainzers (7)

collapses (6, 2) 18 Sopbocles and Anouilb wrote 13 Churchman is not as young abont her new arrangement on eating (8)

alr (5)

21 You need poise to settle an account (7) 22 Welcomed by trio to the

American state (8)

spread round the North (4)

bridge (6) 23 Unity in the Women's Service gives satisfaction (6) 26 There is upset in the upper

Solution to Puzzle IV. 4,000

THEMACE SITORGAPS

REAR R 1 U

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WEAR MICEDOGGIE Solution to Puzzle No. 4,075 D E Y 8 P T M
YEAR MICEDOGGIE
S M T N R 0
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R E D T E GETTHERE
A E A P S R L A
B L A C K O U T B A A L I M
L R E R W E E
E L S I MORE USURER

Flies ond Dinky Dog. 5.05 John Craven's Newsround. 5.15 Stopwatch. 5.40 News.

6.50 Rolf Harris (London and

10.50 Francis Albert Sinatra

Does his Thing with guests Diahann Carroll,

the following times: Scotland—10.38-10.58 am and 11.38-11.58 For Schools, 5.58-5.20 5.55 Nationwide (London and South Eest only). 7.20 Rolf Harris (as London and South East), 11.40 News and 6.50 Rolf Harris (London and South East only).

7.20 It's a Knockout.

8.30 Last of the Summer Wine.

9.90 News.

9.25 Prince Regent.

Wather for Section.

Ysgollon. 4.45-5.05 pm Pier
Maesteg. 5.55-6.20 Wales Today.
6.50 Heddlw. 7.10 Ken Yn Kenya with Ken Williams, retired Weather f**or** Scotland.

policeman and naturalist. 7.40-901:ceman and naturalist. 7:40-8:39 Booanza. 11:40 News and Weather for Wales.
Northern Ireland—10:38-10:38 am For Schools (Ulster in Focus). 3:53-3:53 pm Northern Ireland News. 5:55-6:20 Scene Around Six. 6:50-7:20 Hello Suosbine. 11:40 News and Weather for Northern Ireland

for Northern Ireland. England—5.55-6.20 pm Look East (Norwich); Look North (Leeds, Manchester, Newcastle); Midlands Today (Birmingham); Points West (Brisiol): South Today (Southampton): Spotlight South West (Plymouth), 6.50-7.20 East (Norwich) It's Your Image: Midlands (Birmingham) Know Your Place: North (Leeds) What Am I Bid?; North East (Newcastle) North A(War; North West (Manchester) North West At War; South (Southampton) All Change For . . . South West

(Plymouth) Braio Wave: West

(S) Stereophonic broadcast

Modium wave

5.00 am As Radio 2. 5.00 daw Lea
Tauris. 9.10 Simon Batea. 11-31 Paul
Taurist. 2.10 Rm Andy Peebles, 4.31
Kid Jenoan. 7.10 Personal Call, 8.00
Mike Read. 9.50 Newsbeat. 10.00
John Peel (S). 12.00-8.10 am As
Radio 2.

RADIO 2
5.00 sm News Summary. 5.03 Tony arendon (\$1. 7.32 Terry Wogan (\$1. 10.03 Jimmy Toung (\$). 12.15 Rm Waggoners' Walk. 12.30 Pete Murray's Open House (\$). 2.15 David Hamilton (\$1. 4.15 Much Moro Music (\$1. 5.00 News. 5.05 Waggoners' Walk. 5.20 John Qunn (\$1. 2.45 Soorts Ossk. 7.02 Brian Fohey and the BBC Sectish Radio Orchestrs (\$). 7.30 Foll. 79 (\$). 2.02 Nordring Roadazvous Itom Swoden IS1. 8.02 Among Your Souvening (\$1. 9.55 Sporto Oosk. 10.02 The Frankle Howerd Voriety Show. 11.02 3rian Mattheyr with Round Midnight, including 12.00 News. 2.02-5.00 Rm Tou and the Night and the Musis (\$1.

\$5.55 am Wosiher. 7,00 News. 7.05 Overture Concert, part 1 [St]. 2.00 News. 9.05 Concert, part 2. 9.00 News. 9.05 This Week's Composers:

News. 3.05 Concert, part 2. 9.00
News. 9.05 This Week's Composers:
Csvarli and Carieshmi (S). 10.00
Grizedals Pieno Festival 1979 archms
recital, pert 1 (S). 10.55 Intervol
Reading. 11.00 Recitol, Rart 2. 12.00
Schubert in English (S). 12.15 pm
Cardiff Middov Prom, port 1 (S1. 1.00
News. 1.05 Six Continenta. 1.20 Middoty Prom part 2 (S). 2.10 Louis
Kentner Plaus Lynoninov. 2.50 Now
and Thes (S). 3.50 Cello Sonatee (S).
4.35 Elizabethen Sinport (S). 4.55
Jezz Todeu (S). 5.25 Homeward Bound
(S) including S.45-5.50 News (4 and
mono only Irom 5.45) \$5.15 At Home.
7.10 Plad Proer (S). 7.30 Ontrogoons
abinviour (story by Morna Lurio). 3.11
Celibidaehe end the L90 Concert, part
I: Schumenn (S). 3.40 An outsider
in Governmant. 9.60 Celibidaeho ond
LSO part 2: Ravel, Oabussy. Wagner
(S). 9.50 Modion and Messana. 10.10
Chopin Riano recital (S). 10.35 Caualli:
Venetian Mugician (S). 11.55-12.00
News.
VHF only—6.00-7.11 am end 5.45-7.10
pm Quen University.

RADIO 1

RADIO 2

RADIO 3

- All regions as BBC 1 except at (Bristol) The Rectangular Picture Machine. BBC 2

6.40-7.55 am Open University. 1t.00 Play School. 4.50 pm Open University. 6.55 Mid-evening News. Mid-even

†7.05 The Ealing Comedy, "Passport to Pimlico," starring Stanley Holloway. Hermione Baddeley and Margaret Rutherford. 8.50 Jack Dleval in London with Rhythm on 2. 9.00 Rhoda. 9.25 Man Alive: Allergies-

What's Your Poison? 10.15 James Last Live in London with bis Orchestra and Chorus. 10.45 Darts: The Unipart World Team Matchplay. 11.20 Late Newa.

11.35 The Old Grey Whistle Test. Channel is the only IBA company transmitting programmes during the present industrial dispute. Details of this local service are giren below.

CHANNEL CHANNEL
1.20-1.30 gm Channol Lunchlime
News, What's On Where and Waothor.
5.00 Puffin's Birthday Greetings, 5.05
Clue Club. 5.30 Loss Islande. 8.00
Report at Siz Extra. 7.00 McMillen.
3.15 Feature Film—" A Bullet is Woiting." 9.45 Winners and Locers. 10.15
Channel Late News, Weether. 10.15
Style. 10.45 News in French.

Radio Wavelengths 3 1215kHz/247m & 90-92.5vhi stereo 4 200kHz/1500m & 92-95vht

aac Radio London: 1458kHz, 206m & 94.9thf

Cegital Fladio: 1548kHz, 194m & 95,84hf London Broadcasting: 1151kHz, 26?m & 97.3vhi

RADIO 4

8,00 am News Briofing. 8.10 Ferming Today. 5.25 Shipping loracast. 6.30 Today, including 5.45 Preyer for the Oay, 7.00, a.00 Today's Naws, 7.30, a.30 News Headilines, 7.46 Thought for the Ony. 3.45 Obery of a Somobody. 9.00 News. 9.05 Tueaday Call. 10.01 News. 10.05 Local Timo. 10.30 Ocity Service. 10.45 Moming Story. 11.01 Thirty-microtte Theatre. 11.30 Crowdis and Cream. 11.45 Liaten with Mother. 12.00 News. 12.02 pm 70u and Yours. 12.20 Oceant Island Oics. 12.55 Wasther, Ringramms news. 1.00 The World at One. 1.40 The Archers. 1.55 Shipping Iorecast. 2.00 News. 2.02 Women's Hour. 3.00 News. 2.02 Women's Hour. 3.00 News. 3.05 A Small Country Living. 3.35 The Boatonions. 4.30 Announcements. 4.35 Story Time. 5.00 PM Naws mogazine. 5.50 Shipping Iorecast. 5.55 Weathor. programms news. 5.00 News. 6.30 Meny e Slip (el. 7.00 News. 7.05 The Aichers. 7.20 Forty Years In. 3.05 Something Appalling. 3.45 Science Now. 9.30 Kalaidoocaps. 2.59 Weather. 10.01 Requests the Piessure (s). 11.00 A Book st Bedimo. 11.15 The Finesciel World Tonight. 10.30 Joyce Greniol Requests the Piessure (s). 11.00 News. 11.10 The Finesciel World Tonight. 11.30 Come to the Cabarat. 12.00 News.

BBC Radio London

London Broadcasting S.III am AM with 305 Holness and 0 oug Cameron. 10.III The 3 rien Hayes Show. 1.00 pm L3C Recorts. 3.00 George Gale's 3 o'clock Call. 4.00 LBC Reports.8.00 Alter Eight. 9.00 Nightline. 12.III LBC Reports Midnight. 1.00 am Night Erre. 4.00 The London Fire 5.00 Morning Music. Capital Radio Celibidaehe end the LSQ Concert, gart

1: Schumenn (S) 8.40 An outsider

1: Schumenn (S) 8.40 An outsider

1: Government, 9.40 Celibidaeho ond
LSQ port 2: Ravel, Oabussy, Wegner

1: St. 19.50 Modion and Messana, 1.01 Sept 181, 7.00 London Today (S).
Chopin Riano recital (S1, 10.35 Caualli: 7.30 Open Line with Ric Gevis (S).
Venetian Musician (S), 11.55-12.00
News,
VHF only—6.00-7.III am end 5.45-7.10
Rm Open University.

Capital Radio

6.III am Graham Oans's areeklast
Show (S), 3.00 pm Roger

12.00 Oans Cash (S), 3.00 pm Roger

12.00 Oans Cash (S), 3.00 pm Roger

13.00 Open Line with Ric Gevis (S), 9.00 Nicky Homo's Your Mather
Wouldn't Like It (S1, 1.00 Tony
Myatt's Late Show (S), 2.00 am

Rm Open University.

SERVICES MEMDRIAL SERVICS will be held for the late Donalo Ernest Chase, Menagiso Owetter of Alhas Cepco U.K. Holdings Ltd. /killed in an ay crash off Nice on ard September), at the Minriowes Metho-dist Charch. Nemel Hempstead. Herts., on Wedseday. IRIN September, 1979, et 3 D.m. Fundral arrangements will be grivete. JONES. A memorial service for Martia Clement Trevor Jones, who died in Kitzbuoel. Austria, on july 16, will be held at St. Michael's. Corn Hill, EC3, on Wednesday. September 1R, 197R, st 12 soon.

FIN6 ART SOCIETY, 148, New Band St., W1. 01-629 5118. SUMMER EXNIBI-TION and WORKS UNDER £506.

5.00 am As Radio 2. 6.30 Rush Hour Including 2.15 Holiday Scene. 10.03 The Robbie Vincent Telephone Programme. 1:03 pm London Liva. 3.03 Paul Owens' Showcaso. 4.30 London News Oask. 5.35 Loof: Stop. Listen. 7.03 Slack Londoners. 2.00-5.00 am As Radio 2.

ART GALLERIES

HAMILTONS, 13. Carlos Pince. nr.
Grosvenor Square. W1. 499 9493/4.
First London Exhibition of the werks of
CHRISTINA RUBALCAVA. Wry and
humorous paintings including the series
"L'Eberna Masculin." 4th September.
21st September, 197R. RICHARN GREEN GALLERY, 4, New Bond Street, WI. 01-99 3487. EXHISTION OF SIGNED ARTISTS PROOFS 8Y MUNNINGS. FLINT & DAWSON. Oally 10.00-6.00. Sate. 10.00-12.30. OMELL GALLERIES, 40, Albemarie St., Piccadilly, WI. New selection of sine modern French Politings including Blanchard, Checlous, Deschamps, Delin, Crosst, Nerve, Jacobs, Posset, Robio, etc., and sine modern aritish marine paintings and watercoloure. and watercoloure.

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RA. Edwin Greetman. RP.

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THE PARKER GALLERY, 2. Albemeric
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Marine. Military end Sporting and Topoorashichl Prints and Pointings and Ships
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439 5036. 20th CENTURY ORIGINAL
PRINTS—Bradde, Ernest, Maticsa, Moore,
etc.

etc.

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MODRE. Mon.-Fri. 10-5.30. Sat.

10-12.30. 4-29 Sopt.

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W1. 0-528 S115. GLAGOW 1900.

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THE ARTS

Foiano della Chiana, Italy

A Tuscan album

by WILLIAM WEAVER

recently ended in Venice was dancing bear in the Corso, a an eloquent demonstrative of the ciarlatave telling fortunes in immense Italian interest in the Piazza del Re. The peasants photographer's orl. Italy is washed the sheep, hefore shearreputed to have more photography magazines than any other country in Europe (aome of the wooden implements, ptoughed publications are less than serious, envincing interest ebiefly in nudity à ta David Hamilton); Italian publishers are beginning to bring out serious monographs on leading photographers of the past and the present; museums are buying prints for Ibeir collections, and private galleries are regularly offering shows of new work.

This interest also exists at a grass-roots level. A small-scale is a good-sized market town the main square, and ao (population about 10,000), over-looking the Chiana Valley, famous for its chianino beef (if. RUSSIA VIVA LENIN. you have ever enjoyed a bisa good-sized market town you have ever enjoyed a bister of in an eerie picture, taken teero fiorentina in Tuscany, the from an upper window of his of the photographs of Furio Del Rome and the establishment of

The big phntography show— lt. Entertainments at Foiano or complex of shows — which half a century ago included a lt. Entertainments at Fojano iog, in the Chiana caoal; they wooden implements, ptoughed with wooden ploughs. Then the first farm machines arrived, and they are photographed as protagonists, with a few peasants staring at them, in awe, or perhaps in dismay. The First World War touched

Foiana. Some of the farm machines were ruo by soldiers, while the local men were off fighting the Austrians. A plane crasbed in the valley, and Del Furia went out to photograph the wreckage. A few days later. but fascinating show, held a short time ago in the Tuscan town of Foiano della Chiana, is Del Furia took pictures of Del Furia took pictures in typicat and illuminating. Foiano orators, from various parties, in

steak was probably grown in house, Del Fnria documented this area]. Foiano also has an the Fascists' arrival: two open active Foto Club — most lorries are parked in the square. Italian towns and citles bave crammed with squadristi. and them now — and it was this soldiers are with them. This in group that organised an exhibit 1921, before the March on



Arnolfini, Bristol

Narratives and Illustrations

by WILLIAM PACKER

when a young critic now seeks that they, and nainters like to persuade us that II is really Francis Bacon. Howard Fodelast, naturally we go along to Green, Leon Kossoff, and all the see what he means.

But it turns out that he is not, owe what little success they none too sure himself. Timothy have to his own latterday en Ivman has added a rider to bis selection of recent painting at the Arnolfini (until October 20) -"The Figurative Art of two generations"—which his bet rather. Narrative Paint-ing, Figurative Painting: they major reputations in the sixtles: are not nuite the same thing. And in the excitement of his are now established professionpersonal discovery that some ally cut deserve wider rerogniserious artists have been nainttion; and finally a number of ing pletures with people in younger painters, all fairly ing pictures with people in them these past 20 years and

more, and do so still, he forgets to make clear the distinction. Or rather be neally ducks the issue with the truism that a definition is difficult to establish, and going oo to claim the entire weslern figurative tradition, from the earliest frescoes to the greal "machines" of the nineteenth century, as precedent. He does not really want to be strick with the Victorian simolification that every picture tells a story, and yet, he says, "The images I've inved best in every period of Western Art present a figure . . . canght up in some kind of story." So all we can do is wander round what is, the several thousand words of introduction notwithstanding, a most linconvincing polemical enterprise, and make what we

Our frustration does not stop herc. however, for Hyman even shakier. His introduction beeins with these words: "The kind of painting I'm most

Festival Hall

Any exhibition of contem- over the past 20 years," to which but shoulder to shoulder on the could at least together sustain porary art so bold as ro pro- the only possible response, hav-- same wall they hardly help claim itself "narrative" is ing recaptured enough breath, each other along it is parahound to excite in us a certain interest, not to say positive he mean? He includes his own anticipation, for it is not so work in the show, and so we francia, the one with paintings. Francia, the one with palntings. the other with drawlngs, that shown en bloc are able to establish any useful presence. Yet this group of artists alone, all of them in mid-career, and producing work of considerable interest and accomplishment, given the run of the entire Hyman's narrative point for hlm: Maggi Hambling with her hiographical portraiture. Camp and Green with their autohiographical adventures, Kiff with symbolic incident and de Francia with literary occupation.

The final section, which takes

the lion's share of the apace

ling out to show us what is

ping, strangely distorted figures, distinguishes himself in any

serious way, though Gillian

Barlow's frankly illustrational work is acceptable enough, and

there are a couple of good

thlngs from Andrzej Jackowaki,

sinister Beckmann-like interiors.

For the rest, Paul Butler fol-lows Ben Shahn aa Alexander

Moffat follows Kitaj, flatlering

to decrive, making distortion and mannerism supply their

want of oersonal conviction; but

at least their work is technically

adequate. So much of the rest

is as over-large as the arlists

themselves are over-stretched.

ill-composed, weakly drawn and

ineptly painted. The narrative

element in the work would

again seem to reside solely in

the fact that each work contains

more or less formally related to

own tittle hlatory. Something

gnes on but we are not sure

Which hrings us back to the

question of Narrative Painting.

A narrower selection, even from

among what we see here, might

well have made a particular

and Green, Jones and Jackowski

is the most disappointing.

"happening among younger painters," it uses young in the His selection embraces 21 Inosest possible sense, suggest-ing merely that the artisls have hedges artists who fall into three risen only recently to our atten-tion, if at all. Dnly Wynn Jnnes, with his ominously flapinteresting work in general and a handful of major individual items, most notably the two paintings by Kaiaj, one early, one comparatively recent, and "The Colony Room" by Michael Andrews, again a work dating from early in the period. Andrews works excessively slowly, shows only rarely, and his paintings have the nasty hahit of disappearing for ever into private rollections: bul his reputation has stood very high all this time. He can bardly he thoughl a find; and lo see him here is no re-examination. merely a treat. The same is, a number of figures, all of them true of the others: Hyman thought to re-assess them, but one other, but ambigumisty a work apiece is no basis for enough to make us supply our such an exercise.

The middle group is crowded out too, marginally more insists upon making his oremise generously hung, but only to the extent of one large work and a few drawings or tiny paintings. Maggi Hambling, well have made a particular Anthony Green and Jeffery point Kitaj and Hockney. Camp widely seen or emphasised Camp all show strong things,

"Narrative Painting" next to the ICA in London.

からいいい

Fauré series

by RONALD CRICHTON

The Wigmore Hall's Faure turnes, masterpieces of Faure's series, stretching from now until middle and late periods, also in March, the programmes not exclusively but always partly devoted to the chamber music hut a kind of emotional self-indulgence threatening manand songs, draws good audlencea There was a big house on Sunday for Paul Crossley's piano recital -Mr. Crossley has a following but up till quite recently I doubt if in this hall he would have risked as much as balf a programme of Fauré. The splendid piano music is one of the bul-warks of Faure's output, yet his ohstinately faithful and en-chauted British public bas been slow to explore it.

Mr. Crossley, one of the most gifted and interesting of the younger British pianists, left no one in the dark about bis pro-found feeling for this music. He many of these pleces masquerad-ing behind conventional titles ("Nocturne." "Barcarolle" and so forth—Fauré, who was un-interested in the descriptive aspect, adopted them in deference to custom and publishers) and large structures of some complexity. He has a beguiling aonority that except for one or two moments in the Valse Captage of the custom and publishers. The Schubert cycle was sensitive, intelligeot, with some delicately held phrases (in "Die liebe Farbe" for example) also moments of passing strain when rice No. 4 (a more adventurous page than the designation implies) remains round and sweet, lending noble depth to the organ-like basses to which Fauré anchors his harmonic adventures.

There were, however, some heard this singer project fooddities. There is room for more keenly in larger spaces. argument about the interpretalion of Fauré, usually centering round the question of rhylhm strict or not? Even those who don't believe the feeling is all there already must surely favour greater strictness than Mr. Crossley allowed bimself. At least there must be greater strictness at the beginning of a plece - in the First and Fiftb Barcarolles the failure to establish a pulse soon enough possibly made the ultra-expressive cal strictness of pianists who type rather than play, hut, as Mr. Crossley himself showed in the Third Nocturne, there is a middle way.

planist gave an often impreasive and highly-charged account, be dandled the line in No. 1 and moulded the innocent lullaby strain to No. 2 into something strange. The pianistic talent and the gift of musical communication in Ibia artist are so valuable that these signs of abberation need controlling. lan Partridge, with Jennifer Partridge, an attentive partner at the piano, saog Schubert's Die schöue Müllerin an Sauurday evening, preceded by a modest group of mostly early songs by Fauré, tlinking the recitat with the Wigmore Hall's Fauré

the tenor's tone was tess limpid

than usual — 10 put things crudely, the higher notes some-

times tightened and went into

roice and a givec hall—one has

the nose. How mysterious is the relationship between a given

middle and late periods, also in

the Seventh some rather debili-

tating hesitations—nothing to

do with technique or memory

nerism. This was not confined to

the French master. In the four

Chopin Ballades, of which the

heard this singer project far A limited supply of physical energy where it was needed, for instance in "Morgengruss," and an indoor feeling suggestlng that this jilted lover was more likely to blow his brains out at home like Werther than to drown himself in a brook, reinforced an impression made hy the Fauré group that Mr. Partridge may have been slightly indisposed. "Lydia" (whose demanding simplicity usually puts hoth singers and treatment of the melodies later accompanists on their mettle), seem more extreme than it was.
One doesn't want the mechanic things were under-vitalised. with good French accent but weak diction—some consonants were lost altogether. This mat-tered even more than usual hecause the French part of the

agent's scruffy word sheet was.



Pipi and Angiola with umbrella in their farmyard 20 June, 1918

Furia, a local amateur, who the Regime. died in 1932.

pharmacist, The photographs of him seem to show a conventional pillar of the Italian mlddle-class: hair slicked down and neatly parted, rimless spectacles, trimmed moustache, soher clothes. But he obviously had an inquiring, unconventional mind — and an atert, tasteful eye. From about 1912 until the time of his death, he took thousands of pictures, keeping also a careful log of his work in a series of notebooks. Lost al some point after his death, his plates - over 5.000 of them ago and bought * with the notebooks, by the municipal administration of Foiana.

Willingly nr not, Del Furia Furia's phntographs (many of documented a whole era in them strikingly beautiful just documented a whole era in

But, more important, Del Furia recorded the world of the village and of the farms around

Though the Government at the time denied Del Furia was the village any comprance between the Fascists and the armed forces, there It is, in the photograph. A few days later, in the Foiano the Fascists local brutally shooting the resisters.

Seeing these photographs the ahow included about 300 of them—simply displayed in the classroom of the Foiano Elementary School is a moving experience. You look at the past, but without inuch nostalgia. Del Furia's peasants are not pastoral; their work is hard, constant, unrewarding. The political speakers inevitably remind the viewer that, a sbort time later, came a period when speech was muzzled in It was a wise purchase. Foiano, as in all Italy. Del as compositions) uften have the charm of a family album, but they also have the sharp edge of

very loog since to sally out learn from the catalogue that under such a banner would he was at the Slade in 1963, and have been a risky business, has continued active in the art iikely to call down upon anyone world ever since; but, really.

remotely to du with it all sorts what can he have been doing, of smart critical fire. "Illustra- where can he have been hiding. tive" and "literary" were that he can now make so killing epithels only yesterday, misconceived a slatement? or so it seems, and we had to be prefty quick on our feet to the shore? Why, David get away with a taste even of Mockey, R. B. Kilai, Eduardo the story of Michael Andrews. the decadent Victorians, let Project and Michael Andrews. alone the current Academy. So Does Hyman mean to lell us

rest, some in his show, some llobtenment and patronage? I.

some of the same vintage who well represented and the largest portion of the show. Groups one and two offer us the most

the argument: but Mr. Hyman's nerve fails him and the chance is lost. He shows us instead a selection of recent figuralive painting, no more, no less, some of it decidely poor, some of it very good indeed, and more than worth the trlp to see: very much a case of the single spy rather than the battalion.

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Skryabin's First Symphony

Written when he was 28, it ia hardly a juvenile work—he had

already bebind him the skilful Piano Concerto and a quantity of solo piano music no less sophisticated than original—but we never hear it. It was by far his most ambitiously extended piece before 1900, delicately orchestrated as well as richly. and full of sharply personal turna; and as a whole, it doesn't work at all.

There are plenty of incidental rewards, and all praise is due to Muti and his orchestra for

On Sunday, in their opening ing the right intimately expres- Skryabin, rapturously embedded concert of the season, Riccardo sive note, even where whole in the Chopin tradition, bad no Mub and the Philbarmonia gave a rare performance of Skryabin's First Sympbony.

Musition when he was 38 it is tions from the first flute and enable him to fill ont big works clarinet, Patricia Lynden and later. But this revival was John McCaw, who revelled in eminently worth all the music that recalls one looks forward to Muti per Skryahin's Preludes. Where aomething more like

violent passion entera the score, the weight must be still harder to judge-there is a suggestion of cal's-paw about it even where the composer's intentions are epic. Here, too, Mutl showed a den band with holding disparate material together, and still achleving a luminous shimmer. their refined and glowing Only the Borodinesque Scherzo account of the score. What sounded as if it wanted one remains most attractive in the mure play-through yet. In the Arkhipova and Robert Tear led

hyper sensitive formances of the stranger grander Skryahin with the highest expectation. DAVID MURRAY

Philharmonia plans

Christopher Bishnp, newly appointed general man-ager of the Philharmonia Orchestra. says be has accepted the Philbarmonia post at the suggestion of Riccardo Muti, the orcbestra's principal conductor. who has signed a new contract and accepted the additional pos

In the new season, the Philharmonia will give 115 concerts. There are 140 recording sessions hunked, and three television pro

marvellnusly successful at find- sense, they would bave done it. get showed a surplus of £20,000.

Symphony is just what is chorale Finale (an utterly hardest to bring out: ita fellne, gratuitous, movement), Irina of music director, tenderly ambiguous melodies, Arkhipova and Robert Tear led In the new sea presuppose a soloist's off with brave ronviction, and sensibility (like Skryabin's the Philharmonic Chorus made own), and if blunted leave the a magnificent noise if anything awkward broad lines of the could have made that conclugrammes, work rudely exposed. Muti was sion seem to have a symphonic Last year.

Last year the orcbestra's bud-

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Sweden in a maze

A COMMON phrase in the nuclear power is decided one Swedish general election cam- way or the other, paign was "Sweden at the crossroads." The results have con- Economy firmed it with a vengeance. Sweden is certainly at a political crossroads, and doesn't know where to turn. So close was the voting indeed that we shall not know for a day or two wbo baa ectually won.

Referendum

On the face of it, there seems to have been some polarisation among the electorate. The Communists: on whom the Social Democrats would rely for a majority if they were in a position to form a government, achieved their best result for 30 years hy gaining three seats. At the other end of the political spectrum the winners were the Moderates (Conservatives) who. by Swedish standards, are regarded as extreme and who now become the largest of the non-Socialist parties in Parlia-

Depending on the distribution of the postal votes, there will be either a Social Democrat Government supported by the Communists or a non-Socialist coalition of Moderates, Centrists and Liberala. Either would be lucky to bave a majority of more than one, and neither would find it easy to govern. The Communists would presumably demand a price for their support. and all the more so because of while the non-Socialist parties variety. liave shown strong tendencies to quarrel among themselves.

Moreover, even if the result had been more decisive, there -would still have been little letirup in the polilical campaigning, socialist party in Parliament, in One of the key issues in Sweden are in many ways also the ::. In recent years has been nuclear g power. It was removed from the election campaign by an could support the Social Demo-could support the Social Demo-could support the Social Demo-crats. It remains to be seen whether this kind of coalition well by stressing its opposition .. to nuclear power in the election rethree years ago, but was the real loser this time when the relssue was in temporary abeyonce. All other parties are to

It would be rash to conclude

from all that, however, that the prophets of doom are necessarily right and that Sweden is In for a period of crisis, if not decline. The economy has recovered remarkably well in the past two years after the nega-tive growth in the mid-1970s. Real GDP should expand by at least four per cent this year and there has been a striking increase in the volume of exports. Company profits bave also been rising, admittedly from a low base. Not least, the trade union movement has refrained from using its undoubted power to press unrealistic wage settlements, though the real test here could coma in the next few months. The economic performance suggests that the Swedish model still has a certain resilience.

Even the politics can be read in a less discouraging way than the obvious. The Social Democrats have behaved sensibly since their election defeat last time. They have trimmed their policies slightly, concentrated more on presentation and held their ground. A large part of the electorate clearly atill prefers social democracy in its Swedish form of egalitarianism plus growth. It would be even larger if the Liberals were included, as they can fairly be their relative electoral success, as social democrats of a mild

Three year rule

The paradox is that the Liberals, as the smallest nonstrongest. The other non-socialists could not govern without them, yet the Liberals bargaining will take place, but the election results suggest that what the bulk of the Swedish people want is a mild form of social democracy.

There is one final point some extent divided on the Sweden is doing itself no good by going to the polis every three It looks therefore as if there years. That is one rule which will be no stability in Swedish ought to be changed wboever politics until the future of forms the new government.

The looming energy gap

oil price increases serves to oil that might be ultimately underline Britain's apparent recovered could be between good fortune in being a significant oil producer in its year the range was set at 3bn own right. The country's to 4.5bn tonnes and it is quite monthly deficit on oil trade dropped in £70m during the January-July period compared summer. with £163m during the corresponding seven months of last to the conclusion that there year. That deficit will evaporate could be a sizeable gan between altimether as the UK moves into its enviable state of energy self-sufficiency sometime during the next year.

Conservation

The main concern now is whether Britain can take advantage of its privileged position to strengthen its industrial base, to push ahead with alternative energy schemes and to implement conservation measures of lasting benefit. There is not a great deal of line in which to take the necessary action. The latest figures issued by the Depart-ment of Energy indicate that position of net energy importer may come more rapidly than previously envisaged.

of Belvoir coal mines public inquiry the Department warns that hy the 1990s domestic oil production will be in decline. Natural gas production might begin to slip a few years later. At the same time the alternatives, like coal and nuclear power, are not being developed fast enough.

Revision

The urgency of the National Coal Board's "Plan for Coal" development programme is underlined by the fact that without early and continuing colliery output in 1990 would be lower than it is today, perhaps falling to around 80m tonnes annually before the end of the century (compared with around 120m tonnes at present). Given the necessary development boost the Coal Board is hopeful of attaining an output of around 170m tonnes per annum by the

turn of the century. But the development of coal fields. like that of nuclear dealt with the more immediate plants, involves long lead times task of boosting North Sea oil in some casea as much as a exploration. Now it must inject decade of planning and con- more preency into the longerworse Britain's oil resources tive energy sourcea and may not last as long as once encouraging an even greater thought. The latest published conservation effort.

THE GLOOMY tone of the Government estimates of International Monetary Fund's Britain's offshore resources annual report on the subject of show that the total amount of

All this leads the Department

could be a sizeable gap between energy supply and demand opening up within the next two decades. a gap as wide as 105m tonnes of coal equivalent by the year 2000. Assuming, for simplicity sake, that the gap was to be filled with coal at to-day's prices the burden on the country's import bill would be well over £2.5hn. In reality the cost would be far higher for much of the gap would have to be filled with imported crude oil and all the signs are that OPEC will make sure that the cost of this fuel will rise in reat terms over the coming

Lower demand

Conservation will help, of course, but the Energy Department bas already taken account In its submission to the Vale of this in its latest forecast. It estimates that by the year 2000 UK energy demand could be in the range of 445m to 515m tonnes of coal equivalent. This ia some 5m to 45m tonnes lesa than the forecast contained in last year's "Green Book" on UK energy policy.

However, while the Government sees a lower level of demand than hitherto-a reflection in part of more modest economic growth-it foresees an even bigger drop in the amount of indigenous production. Last year the Energy Department could see the UK producing between 475m and 515m tonnes of coal equivalent by the end of the century. The Vale of Belvoir Inquiry will be told that it now sees domestic supplies being in the range of only 385m

to 410m tonnes of coal equiva-

The warning implielt in these figures must be taken serionsly everyone concerned; the Government, consumers, producers and environmentalists. The Government has largely To make matters term task of developing alterna-

Lloyd's troubles likely to lead to reforms

lead to some of the most extensive reforms that this insurance market has ever seen.

Flaws in Lloyd's structure have been revealed by the celebrated Sasse affair, the "Savonita" claims row, the pos-sibility of the market's largestever losses from computer leasing insurances, the halting of dealings on five noderwriting syndicates under the management of Asbby and Co., and controversies surrounding many of some of the largest approved Lloyd's insurance brokers.

When Mr. Ian Findlay, the 61-year-old chairman of Lloyd's of London, completes a two-year term of office in December be will have presided over an insurance market which is passing through a turbulent period in its history.

Many of the troubles that bave

come to the surface during the 21 months or so that Mr. Findlay bas chaired Lloyd's were developing sometime before that period. These problems have been varied but what they have revealed are breaches of Lloyd's accepted procedures which might suggest that the market is ln some disorder.

Lloyd's claims that the incidence of the troubles or the amounts of money at issue are not significant in a market which handles over £2bn of insurance premiums in a single year. But what is of real concern is that the troubles in Lloyd's have exposed weaknesses in what have always been accepted as the market's strength.

The principal strength of Lloyd's, which Lloyd's maintains bas. been responsible for its predominant position in international insurance, has been its untrammelled entrepreneurial environment. This environment has been allowed to flourish with the minimum of outside regulation from government departments or internal intervention by Lloyd's own ruling and administrative bodies.

Lloyd's has argued persuasively that it is able to recent run of problems.

self-regulatory Lloyd's 16-strong ruling commit. steady rate of growth. such as damage to property of tee decided a year ago to look Lloyd's reputation has been complex problems such as pollinto the whole question of its further enhanced by the tical risk. internal powers.

members of the Lloyd's comof Parliament and bye-laws, and

IDESPREAD PUBLIC who carry on insurance busi- 1969 there was a membership of concern about the ness at Llovice the news of armind 5000 troubles that have hit the Lloyd's committee; and any over 17,000 individuals who are Lloyd's of London is likely to other matters which the in- supporting Lloyd's with comquiry team consider relevant As each new controversy ex-

inquiry's brief has become more comptex.

Sasse affair whereby Ltoyd's is The latter part of this expan-enforcing the principle of unsion has been achieved at a ties—raises a number of issues at anything tike the same rate about how this problem can be handled effectively in the Market pressures have led to future.

Moreover, Lloyd's earlier handling of the Sasse affair-when the Lloyd's committee provided numerous forms of aid tn the syndicate which is facing £20.2m of tosses—attracted criticism that the principle of nulimited liability may have heen compromised. The Fisher team is likely to study carefully the issues that the Sasse controverse has relief to the same than the sasse controverse that the same than versy hea raised.

On the surface there seems little wrong with Lloyd's. From . its modest beginning in a coffee house in 17th century London, Lloyd's has developed into a major loternational insurance and reinsurance centre.

Currency earner

It is the City of London's largest single earner of overseas currency from invisible exports. Latest figures for 1978 show that Lloyd's overseas business underwritten in the UK contributed £362m, over a third of the total net earnings of UK insurance institutions, and over 15 per cent of the total net overseas earnings of the City.

Ιŧ the contribution approved Lloyd's insurance brokers is included; the role of the Lloyd's community as an overseas earner in the City lonks even more impressive. Lloyd's stresses that it is a

national asset and has become so because of the unique way in which it operates: Its flexiregulate its own market, in which it operates: Its flexialthough it is this ability which bility in being able to take on
Lloyd's total insurance business,
has been challenged by the many kinds of insurance which
The non-marine market insures could not be arranged elsewhere, every conceivable kind of risk Taking account of a growing coupled with an entrepreneurial from professional indemnity political and public concern spirit which has been left free and products liability to the legabout the effectiveness of its from government intervention, of actresses or footballers. It procedures, has helped Lloyd's achieve a can cover routine insurances skills.

financial security market's For much of this year a which backs all Lloyd's policies. Owes much in recent years to the seven-man working party headed The 17.279 members who have use of a variety of delegated by Sir Henry Fisher has been joined Lloyd's all accept the mechanisms. There have taking evidence from many principle of unlimited liability, allowed underwriters to build which, together with a battery munity and reviewing the of other Lloyd's funds and seas business quickly and at low constitution of Lloyd's as members' deposits, ensures that cost, established under Lloyd's Act all valid claims are settled. Of these the "binding auth-

mittee powers to supervise those a period of rapid expansion. In ing authority allows a nomin property insurance business for

milted capital. Because of the expansion of the membership, poses fresh weaknesses in Lloyd's has been able to take Ltoyd'a so the nature of the on an increasing volume of husiness. During the same Recent developments in the climbed from £700m to £2bn.

BY JOHN MOORE

limited liability through the time when there is already ex-courts—requiring 30 members cess capacity in the market: 100 to declare that their assets are many insurers are chasing time when there is already exto declare that their assets are many insurers are chasing sufficient to meet their liabili-

> corners in usual market pro-cedures being cut by both many of the Lloyd's insurance brokers — who produce insur-ance business for Lloyd's underwriters-and often the underwriters themselves. Because many underwriters bave found themselves in a negotiating position of weakness, they have found the commercial pressures too compelling to investigate or inquire about the quality of the insurance business they have been receiving or check that proper market

procedures have been followed. The underwriters would argue that this should not be part of their work. Traditionally, the underwriter's function is reduced to the area of acceptance

of risks and payment of claims. The brokers undertake all the administrative function: of obtaining the business, present-ing it to underwriters, obtaining all the facts and figures, preparing the policy documentation, administering the insurance throughout its period of cover, renewing it, helping with ctalm settlements, and the accounting. There should be very little dup-lication of work between the broker and underwriter.

To make the market an effective and efficient operation requires a spirit of utmost good faith, which means that a fulldisclosure of Information must take place between both the broker and the underwriter.

By far the largest market in Llojd's is the non-marine market. It has been developed over the last hundred years and accounts for nearly half of

The growth of thia market up significant portfollos of over-

of Parliament and bye-laws, and In the past ten years the ority has attracted much recognised procedures, although which gives the Lloyd's com- Lloyd's market has undergone attention and criticism. A bind- he produced fire and damage to

by Lloyd's against 30 members of the Sasse syndicate requiring them to produce a certificate of underwriting account by September 30

underwriter effectively delegates his pen in an insurance specialist, often based abroad. The holder of the binding authnrity can underwrite business for a syndicate up to certain specified limits.

Binding authorities are gen-erally negotiated by established brokers who take a percentage from the arising business.

should go to those insurance specialists who have nuder-writing expertise but often they have fallen into the hands of hose .who are more adept at

broking than underwriting.
The use of binding authorities has fallen into disrepute. because there has often been a confusion of function by the holder of the authority A busioess cperations of the per-son holding the binding authority are so small that he cannot provide an adequate underwriting scryice. Moreover, some binding authority holders lack necessary professional

Lloyd's non-marine market association offers a procedure whereby all binding authority holders can be vetted as to their suitability.

An insurance specialist based in the U.S. gained a binding authority from the Sasse syndicate after negotiation by the syndicate's brokers. This authority holder never gained under

insurance cover on the under to tead to a large proportion business, writer's behalf. Through the of the losses.

And yeurse of such an arrangement an By the lime that Lloyd's asked with the losses and the losses and the losses are the losses are

The "caller" sits beneath the Lutine Betl relaying messages to brokers. The writ was Issued

gained eny idea of what was internal checks on the leasing going on the authority holder business—which was eventually had already underwritten a to represent \$10n of insured volume of business on behalf of values in the market - were the syndicate, much more business than the syndicate in fact.

Lloyd's does not insure the eventual loss making insurances were underwritten during the period of a month.

In these circumstances if insurences have been issued in Lloyd's name then Lloyd's up on valid claims,

Reporting

iduality of interest can be built at Lloyd's come down to a weak- tions that there are many ways up whereby the binding authors, in reporting procedures of arranging contingency risks ority holder is effectively a among members of the market, and I would not swear that broker rather than an estab- The Sasse syndicale breached some of them do not impinge lished underwriter. Often the its premium limits, which are into "the area of financial carefully related to the autount uf capital that backs the syndicate, accepting during one ing insurances broke the spirit, underwriting year £10m of if not the letter of the financial premium against a limit of £4m, guarantee ruling, does not seem And one of the Ashby syndi- to have been considered. cates experienced problems But when troubles occur with its premium limits as a Lloyd's has little formal organi-

> in the reporting procedures of the members of the Lloyd's community then there is also weakness in the nowers of Lloyd's itself has recognised Lloyd's to enable it to take that appeals to the membership action and protect the good name of its market.

Computer leasing insurance Lloyd's bistory, was largely due

ated third party to grant the Sasse syndicate which was judgment on a new class of

And yet the question must be asked whether Lloyd's own internal checks on the leasing

expected. Nearly a third of the shortage of receipts, sales or profits of any venture; or the financial failure of any venture which protects the insured against financial default or Ideally, binding authorities Lloyd's powers are limited. For insolvency under its financial guarantee rules, But of the early ternunation of computer leaves argues that it is bound to for computer leasing companies honour all the policies and pay have been regarded as acceptable because they insure a recognised contingency, namely the early termination of the

> Mr. Findlay recently told the Wilson Committee reviewing the Essentially, all the problems functioning of financial Instituguarantee lusurance. The questinn of whether computer leas-

result of its involvement with sation to cope with its Acts of binding authority business. 1871 and tell are out of date But if there are weaknesses and largely irrelevant to dealing with contemporary dis ciplinary matters within the

to adopt a responsible altitude enough. This is why we are business, which is likely to pro-duce the largest losses in gramme of reform in its selfregulatory procedures in the to a major error of underwriting months to come.

MATTERS

The elm's return from the Orient

The more arboreally conscious walking along Queen Victoria
Street in the City may bavenoticed a particular sapling
bearing up to the carbon
monoxide. It is an elm of an unusual kind, ulmus porvilolia. which was flown especially from Japan along with 11 others, fore-runners of an ambitious scheme to start reintroducing diseaseresistant elms to Britain. major Japanese trading company plans to import 10,000 of them next autumn to celebrate the centenary of its London opera-

"We wanted to make a permanent contribution to the host country rather than have the usual cocktail party junket. tive of the company.c Even though the scheme has been cloaked in secrecy, the demand for a sbare of the trees by local authorities and other public in-stitutions has been extraordinary. "We could happily accommodate at least three times as many trees. If we had adver-tised, it would be unlimited. Because of the cuts, there are workforces council

around with nothing to do." come by ship from Canada, where a great deal of research baa been done into Dutch elm disease, and it is believed that Asiatic elms are immune. The remaining 3,000 will be flown from Japan, where the disease is unknown.

in-the-wood traditionalists who shops throughout France (and feel that any nonEnglish elm should be arbor non grata (or should it be non grotus?) but in general the response has been very enthusiastic, even though it in Paris has filled its windows statistically unsound. Doll, it has not yet been proved that the on the Boulevard Haussmann will be remembered, was the Asiatic elm will keep its immunity in a British habitat. "The lawns, privet hedges and flower-between cigarette smoking and proof of the pudding is in the beds. Within, the "men's cot-cancer.

eating," says the Forestry Com-tage" shows "une mode tres. Now the nuclear industry is inmission cautiously. However gentleman farmer." Another also striking back. At a Press there are. It seems, Asiatic elms in Islington which have so far survived the disease. Pearce, who has been organic counties).



ing the £100,000 scheme with a Japanese colleague, is particularly delighted by a letter from the Japanese navy. He was known in Japan as Miura Anjin. round with nothing to do." "We're going to plant trees
The bulk of the elms will round his memorial;" says Pearce.

Rustic vogue

The more the French hear about Britain's economic woes, from Japan, where the disease is the more indulgent they become long-serving workers in nuclear unknown.

The scheme, curiously, met life across the Channet. The cancer than the national with some resistance from dyed. Au Printemps group, with 33 average. one in Andorra) tomorrow top epidemiologists such as launches a month-long British Professor Sir Richard Doll, the exhibition.

The group's "flagship" store with British cottage fronts,

هكذا سا الد س

smarter commuter villages reactor. In London, newspaper might care to copy: a tea-cosy which matches the bed cover per cent more deaths from lung Tite nearby British embassy, maintaining Sir Nico Heuderson's fine tradition of commerclai enterprise, has also laid on cent more. Lamheth's town crier, five policemen and 30 bagpipers.

Bird's flight

The competition to dream up new ecocomic theories and tose off insouciant forecasts seems to Buying goodwill grow ever more hectic among the authors of stockbrokers' newsletters. The latest prize must surely go to one Tony Bird, writing about the options market for W. L Carr.

He declares that the British Government will make ao economic U-turn in the spring of next year. This pronouncement the district council in Gilling is hased on the claim that bam, Kent. It seems there is a changes of course were made memorial there to a 18th century by new governments in 1970-71 sallor called William Adams and 1974 after approximately who, while on board a Portu- nine months. That, says Bird, guese ship, found himself is the "going gestation period."
washed up on the Japanese
coast, where he later founded why all those Treasury experts why all those Treasury experts are wasting their time.

Home truths

As nuclear industry teaders see it, some newspapers bave given them a very hard time over the Mancuso Report. This U.S. study purports to demonstrate that A first reaction came from

Warden of Green College, rejecting the Mancuso findings as man who established the link Blue streak

gentleman farmer." Another also striking back. At a Press parrot, Profuse talker. Sui rustic scene is declared to be "like those of Stratfordshire" assembled journalists vive for fishwife or deaf person." (one of the tesser-known English treated to some of civil statistics by Cliff Blumfield, director in

One cottage bas an idea the charge of Britain's fast breeder cancer or bronchial cancer than the population as a whole; in Manchester the figure is 41 per

Before rushing to open the window and take a deep breath of sparkling Cannon Street air, sbould like to speculate that the cause is noxious gases given off by overheated typewriters.

If and when the Zimbahwe Rhodesia question finds a solution, one of Julius Nyerere's suggestions at the Commonwealth Conference may belp to calm any still-ruffled sensibili-ties. The Tanzanian president feels it might he helpful for the Commonwealth to buy out nervous white farmers in Rhodesia, as was done after Kenyan independence.

I learn that the Kenya Land Transfer Programme, as it was called, has only just come to an end, 16 years after independence. At a cost to Britain of a mere £33m, involving the buying-up of 3.5m acres of land, more than 500,000 land-hungry Africans were resettled. The late Jomo Kenyatta said the scheme was largely responsible for the smooth handover of power in Kenya, and laid the foundations for good relatiwith Britain ever since, a ... with which Whitehall appca-

Just 25 white farmer Kenya have reaisted gove hlandishments. Of the ren who could take their sale anywhere they wanted ironically, moved to rather more to Rhodesis

Card in a Portsmouth : Now the nuclear Industry is .window: "For sale, grey Af.

Uiserie.



FINANCIAL TIMES SURVEY

Tuesday September 18 1979

Telecommunications

Telecommunications is widely regarded as one of the kev industries of the next two decades. Improvements in technology have led to spectacular growth in recent years, and a similar rate of growth can be expected in the foreseeable future. The main problem will be to compensate by increased manufacturing capacity for the loss of jobs caused by technological development.

Industry the future

By John Lloyd

as the key industry of the late 20th-21st century for a decade: within it, telecommunications is at once the largest market and the key strategic sector. It is world has a telephone system. It is growing rapidly—world rates of growth are forecast at around 10 per cent into the leaping from over \$30bn now to over \$65bn in 1987. It is phone exchange has produced

telex messages. Finally, it has hecome a crucial part of the industrial/social infrastructure of an advanced society, the loss of which would half industry, commerce and distribution.

The growth curve in telephone use bas been getting progressively steeper aince the last war with North America and then Europe providing the bulk of that growth: the numbers have heen almost doubling since 1945, and are forecast to continue to do so nntil 1990. The rate of growth in the U.S. will slow slightly, though it will remain the largest market until the early 1980s: But Europe will grow at around 14 per cent Asia is forecast to take off strongly in the early 1980s, Latin America to show stronger growth by the mid-1980s, while Africa and the Pacific countries will turn up slightly (from a low base) in the next decade

It is not surprising that bigh

growth rates are a function of developments, course: but both because tele-pione systems are international In their links, and because the telecommunications - equipment business is Itself increasingly 1980s, the size of the market International in Its interests (even the mighty American Telephone and Telegraph changing rapidly—the marriage moved ponderously into the of the computer and the tele export markets), the developing export markets), the developing countries have a strong voice a wbolly new type of system. In the industry. All countries The "simple market"—broadly it is greatly widening its scope are represented on the intermediations with fewer than 10 telephones now handle or will soon handle. Union: many on Interset, which per 100 population, is one where now handle or will soon handle. Union: many on interest, which is ever-increasing amounts of regulates satellite transmissions: much of the work to be done is data, cable TV, electronic mail, all are objects of the attention hasic laying of major trunk networks, establishment of large of manufacturers, if not for previewdata services — as well as of manufacturers, if not for pre-works, establishment of large of Holland will be more modern munic the conventional telephone and sent orders (which may be and small exchanges for the first than most in the U.S. and in major

		Shn_		Annua rowth ! 1977-8	Rate
	1977	1982	1987	જ	
Switching Transmissions and local	10.2	14.8	21.4	7.7	
distribution	10.9	16.1	23.4	8.1	
Terminals	3.1	4.3	5.9	6.6	
Mobile radios	2.3	2.4	5.0	8.1	. '
Private systems	2.7	4.6	7.1	16.2	
Others	1.2	1.9	2.5	7.6	
	30.4	45.1	65.3	7.9	
North America	14.2	19.2	25.9	. 6.2	
Developed Enropean countries	6.2	10.0	16.1	10.1	
Developed Pacific countries	2.4	3.2	4.3	6.1	
Middle East	3.6	6.5	10.0	10.8	
Other developing countries	4.0	6.2	9.0	8.5	
Total	30.4	45.1	65.3		

which will certainly be bigger. The Middle East continues to excite exporters: China Is also thought to hold out possibilities: Africa and Latin America are less exciting but are the arenas for fierce competition for all

to which the manufacturers must address themselves—the simple and the sophisticated.

gerial system which can cope with future change. The "sophis-ticated market," made up of countries with more than 10 telephones per 100 population, is in part concerned with re-placement of electro-mechanical networks with electronic ones, and in part with the introduction of a new range of office communications equipment and with new domestic devices as well.

course, so easily separable— also, of course, much more especially when one considers suited to the transmission of that the system now being data (which is already installed in Saudi Arabia by digitised), and which represents Ericsson of Sweden and Philips an increasing share of telecom-of Holland will be more modern munications traffic. Most of the

Western Europe when it is manfacturers in the world are freedom of choice and the evils operational. Building up a now bringing out, or have of monopoly power: the PTT/ to adopt the most up-to-date electronic technology available, without the need to scrap large amounts of electromechanical plant—assuming, of course, that the country concerned is wealthy enough to make the leap into the electronic age in the first place. However, it remains the case that the work now to he done in Third World countries is one of laying the foundations, while that to be done in advanced countries is extensive renovation coupled with thorough modernisation.

The technology which has nost affected telecommunications in the past two decades has been the computer, which first allowed the control of the exchange to he computerised and now, with the advent of the microprocessor and the micro-computer, allows the electronic exchanges to offer an enormous range of facilities which are themselves computer-controlled -by computers on a chip. At the same time, this technology offers the possibility of digital telephony—that is, sending the voice messages in pulse codes, which are reassembled into speecb patterns at the receiving end and which are at once more rapld and of higher quality than the standard method of transmission, known as analogue. These two markets are not, of Digital telecommunications is

telecommunications

has the advantage of being able electronic systems both for their domestic and for their export in concert with its main suppliers GEC, Plessey and STC. has been working for the past five years on "System X," an all-electronic, digital system, to

he unveiled this month in the Geneva Telcom 79 exhibition, which takes place under the auspices of the ITU. Other companies—as Ericsson, ITT, CIT-Alcatel and Western Electric-have digital systems on the market and are already making sales.

As the developing countries seek to climb on to the band-wagon of high telephone growth, in all cases using the state as the engine of investment and of development (or joint development with foreign companies), so in the advanced countries there is increasing pressure for deregulation, and for a relaxation in the state or private monopoly. The forces spearheading the anti-monopoly as the UK Post Office has shown alliance are the telecommunications companies, who are looklng for larger markets and higher profits: opposing them are (usually) the PTTs or private monopolies, ments (in some cases) and trade unions. This taking of sides on the Issue of deregulation, or "interconnect" as It became known in the U.S., is a major feature of the telecommunications scene of our times and one Both sides use large, moralphilosophical concepts to justify their positions: the interconnect lobby runs a strong line in the

public service, the importance of planning and the need to maiotain both standards and personal and national security.
While the logic of commerce elevating debates, they do carry some weight in the political sphere, which is one in which telecommunications finds that it is increasingly required to perate both as an industry and

What are the consequences of this growth, first for the tradi-tional methods of carrying messages, the postal services and, second, for the workers in telecommunications service and

In the first instance, posta

manufacture?

services are profoundly affected by the growth of telephone use, simple as the growth of one meaning the decline of the same time (though scarcely at the same rate) as telephone use. over the past two years. The unwelcome number of utilities' and other bills: all mean business for the postal services. Yet, although it seems posts can cope with the telephone, It is unlikely that they will be able to continue growth when faced with elec-tronic mail, telemetry (remote meter reading), direct order

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services throughout the world must be prepared for decline.

Siemens

Philips

Ericsson

Plessey SIT—Siemens

Northern Telecoms

the growth of circulars, or ment — but bas not. The "junk" mail, even the replacement of electromecbanical production by electronic and worldwide - though the service engineers tend to have increased in numbers. This basic difference in the industry is "solvable" only by strong " solvable ' through viewdata and the other sector compensating. In employ-

When the international telecommunication exhibition TELECOM 79 opens in Geneva this week, the world will see an unparalleled British telecommunications achievement.

System X is Britain's revolutionary family of digital switching systems for world markets, and is the centrepiece of the British Pavilion. System X is a complete package upon which the digital networks of the future can be built. The largest single telecommunications project ever undertaken in the United Kingdom, it is a collaborative development by the British Post Office, GEC, Plessey and STC.

This collaboration has been extended with the formation of British Telecommunications Systems Limited to promote System X in world markets. It is confidently expected that System X will be in the forefront of international digital systems installations in the 1980s.

In addition, the comprehensive range of transmission equipment and customer apparatus developed by five British telecommunications manufacturers - GEC, Plessey, STC, Marconi and Pve TMC - together with the consultative services and expertise offered by the British Post Office form a unique display at TELECOM 79, and are proof that. Britain intends to provide what the world needs advanced telecommunications.



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Marconi Communication Systems Limited

Pye TMC Limited

Controversy over PO's monopoly

monopoly, a stote of affairs log of orders which was being takes up more space and is which has been accepted very reduced only to go up again as slower and less fiexble. In largely without question since on the slde effects of the short, it bas to go. The Post largely without question since 1969, when the Post Office Act established the corporation.

Earlier this month Sir Keith Telecommunicatioos has a target tors' strike, receotly settled. The early-mid 1960s, and failed: sioce theo. It has seen the lead pass to other countries. The exchanges which are now replacing Strowger and crossbar are the TXE2 (small) and the telecommunications—and second, that he wanted to literate tors' strike, receotly settled. The early-mid 1960s, and failed: sioce theo. It has seen the lead pass to other countries. The exchanges which are now replacing Strowger and crossbar are the TXE2 (small) and TXE4 (large) exchanges, manufactured by the three main suppoperators' actions—which bas delayed the sending of phone delayed the sending of phone for posts of the computer operators' actions—which is the early-mid 1960s, and failed: since the carly-mid 1960s, and failed: The early-mid 1960s, and failed: The early-mid 1960s, and failed: since the carly-mid 1960s, and failed: since the carly-mid 1960s, and failed: The early-mid 1960s, and failed: since the carly-mid 1960s, and failed: sell their products direct to custhe corporation to the money tomers. The split will take some markets and lost it an estimated 18 months to achieve legislative £90m of profit-profits may well form: liberalisation may take as be significantly down. much as a year, and the form

That review will certainly not show that the Post Office's telecommunications business is un-profitable: for the past four profitable: for the past four First there is technology. The years, it has been easily in Post Office still relies very profit, and over the past finan-largely on Strowger electrocial year ootched up a surplus mechanical equipment to make of £347m, up more than 6 per the connections for its 19bn cent on the previous year, calls in a year. Strowger equip-Growth in profits was more than meet, developed decades ago, is matched by growth in demand—both sturdy and reliable, and indeed the level of demand, regarded by the older genera-coupled with a long series of tion of Post Office engineers todustrial actions by the Post with much affection. It is, how separate article in this survey-

industrial action apart, theo. it takes will be dependent on growth is oot a problem for the a review of telecommunications telecommunications business. So

Geogral Electric Company (GEC), Plessey and Standard Telephone and Cable (STC, 2 subsidiary of the U.S. based multinational, ITT). TXE4 is a largely electronic analogue largely electronic, analogue system, a stage of the techoology which has been over-takeo both by fully electronic aoalogue systems and even more by digital systems. Still, only eight TXE4 exchanges are curreotly io service and 280 are still on order from the major suppliers, awaiting installation in the 1980s. Thus the Post Office will actually be buying, for the most part, a semi-electronie aoalogue system at the same time as its digital System X tries to fied its feet on world markets.

System X-the subject of a

taken. The importance of achieving a significant volume of exports with System X can hardly he understated and we believe it is fair to say that the rery survival of the UK tele-communications industry de-pends on System X. In fact, the National Economic Development to under 6 per cent in 1975. The

round it will probably never be possible." (My italies.) With such stakes, and with the current level of competition, it is tions and ordering patterns. perhaos easy to be pessimistic; hut the System is already making its future competitors glance over their shoulders, and it remains true that the world's telecommunications markets are

Couocil bas stated that if the

UK does not achieve a position

as a major exporter this time

THE SUPPLY of a telecom- Office Eogioeering Union which ever, more prone to breakdown carries a great deal on its back other equipment are also pro-due to be cut into the system muoications service throughout only came to an eod last that electropic equipment,—primarily, the hopes and fears filed elsewhere in this Survey: in 1982—brought forward. At the UK is, broadly, a Post Office autumn, has meast a large back, requires more maintenance, of the UK telecommunications it should be said here, however, the same time, it has recently monopoly a store of affairs los of orders which was being takes up more space and is industry. A recent survey by that their joint co-operation on set in band a major upheaval stockbrokers Laurie Milibank of the System X project has raised in management structure within the UK electrooics sector was fears that effective collaboration the telecommunications businesses a special considerable of the communications of the communications of the communications businesses and the communications of the com downbeat about System X: might not be possible. To a ness, an upheaval consciously "Whilst the development of System X represents a belated have been quietened (or are at the Bell (AT and T) restructurations. attempt to catch up with the most modern technology, there is a real threat that this will be centred round the position of proceeding—are that marketing coverdesigned" (and overpriced) for export markets. The question therefore remains as (and will shortly market) a cleared to come through both to what export potential System digital system—System 12— be kept high, market signals are.

X will have when it is finally realised and how the marketing of the equipment will be underof the equipment will be underAgain, the manufacturers have particular emphasis will be. received criticism in the past placed oo office communications, for not pulling away from what has been felt to be an over-cosy fied—in common with other relationship with the Post authorities and large com-Office, especially at a time when munications companies—as the exports area offeriog much the greatest per cent growth. The business seems in 1963 determined to show that it can compete in the market place as to under 6 per cent io 1975. The manufacturers defend them-selves by savior they were hound by Posi Office specificawell as any private company. Following Sir Keith's an-

councement earlier this month, it is certain that it will have to mixed feelings. Both sides have a point, but the do so. It has considerable admarket feels that they will not effect has been relative devantages: it will remain in conbenefit, since electronics comwhich is seen as being one of "last chaose."

The corporation has not been insensitive to charges that it lacks sufficient marketing and entrepreneurial flair for its own, the manufacturers', and the strong relationships with "he amount of the trunk octwork, and going up on rumours of the going up on rumours of the know better than the Post Office announcement. It is certainly announcement. It is certainly announcement. It is certainly announcement. It is certainly announcement they will have an one. Many international companies now offer products which it operate, and for which they can only less-advanced equivalents.

TELECOM

Second, the UK telecom-TELECOM 79. the intermunications industry will appear, for the first time, as a national exhibition of telecommunications systems held unified body, sharing a common sland designed to display UK thinking on telecommunications, pooling the resources of the Post Office, the three in Geneva from 19 to 26 September, is probably the largest of its kind ever staged, displaying what Sir William Barlow, the Post Office chairman, has described as "arguably the world's biggest major companies-GEC, Plessey end STC, together with lwo smaller companies, Marconi and Pye TMC. and most significant investand most signmeant investment in any single sphere of engineering and scicoce."

There will be major exhibitions by the U.S., Japan, France, West Germany, Haly and Canada, each of which has been alotted a "national day" in which the focus of

The export capability for System X has already been unified, under the rubric of British Telecommunications Systems and the directorship of Mr. John Sharpley. This collusion among comday" in which the focus of

panies which were accus-tomed to herce competition has been arrived at by neces-sity; under the awareness of the fact that other countries Japan, France, even the U.S.—were presenting united faces in world mar-kets, and that to fail to do so

meant lost orders. Sir William Barlow, in characteristically optimistic mood, says of the venture— "we are projecting a unified front to show the world that Britain intends to resume its leading position in the arena of world competition for telecommunications markets." He bad better be right.

benefit, since electronics companies' sbare prices bave been

the exhibition will turn to their products. At the same

time, two symposia wilt run, one in each balf of the exhibi-tion: while the World Administrative Radio Con-

ference will begin its ex-pected ten-week course, in which the sharing out of the world's airwaves should be

The exhibition is highly sig-

nificant for the UK, for two reasons. First, it wilt be the

first demonstration of System X, and coormous interest can

be expected to be shown in

this much heralded system-especially from the competi-

entrepreneurial flair for its own, the manufacturers' and the country's good. The System X project has been pushed along rather faster in the past two or three years, and the commission-both make and sell this and entrepreneurial flair for its own, the manufacturers' and the surplyiog industry, oo which it will still exercise a decisive in flueoce.

The manufacturers who must three years, and the commission-ing period of the first exchanges ard the new situation with the biggest, hungriest and panies ioto the UK market as up.

Clearly, the fiercest companies in the world. The Western European companies at least will be in the happy position of retaining s Clearly, in the three-five years' grace which they have the UK industry must do some catching

John Lloyd

Modernising in Europe

hibition, which opens under ITU there is certainly talk of the auspices this week, will not merely be a timely demonstration of the state of the telecommunications market worldwide, cess of the French has been a large pool of engineers from hut will also be a particularly that both companies are now which to draw for its projects. interesting forum for a com- offering digital systems, and For the momeot, the EWS parison of developments in the CIT Alcatel has done so for system is untested, and its leading European countries— some years. It does not always effice west Germany. France, the UK help to start first in this race: If I and Italy. It is uf course the but oo balance, being first is its case that two of the leading still probably an advantage, and though, then Siemens will be indeed arguably the two leading the companies have orders not very well placed indeed to —telecommunications com-panies in Europe are hased in Caribbeao, but a £100m con-smaller countries—Philips in tract from the Soviet Union as sweden—but of interest here is not just manufacturing, but the way in which the PTTS meritain the EIO (CIT Alcatei) and the and the British.

MT (Thomson CSF): hoth are which they affect the manufacturing strategies of the leading and export markets if produccompanies. We are thus interested in countries with substantial home markets; the UK is excepted here since it is dealt with at greater length.

France has attracted most attention to itself in the past four or five years, which has been precisely its Intention. From occupying the position of being the joke of Europe when it came to making telephone ralls. France has initiated, with some success, a programme of extensive and rapid modernisation at home compled with aggressive exporting averseas, The French PTT has publicly stated its expansion aims: these are-to increase the current number of 12m lines by around 2m lines a year 1il grew by 1.95m last year) and to get telephone density up from its oresent level of 22.3 telephones per 100 citizens (compared with 29 per 100 in the UK) to double that by 1985, with a total of 20m lines. A large proportion of the new lines will be electronic: there are presently over In. and that total is expected to rise to 2.7m by 1982. As part of the PTT's expansion plaos, particular emphasis has been placed on upgrading rural services, with a FFr 1.2hn investment in the Pay de Loire

Flurry

activity in overseas markets, electronic components, scrapped where French telecommunica- them, and started again. These tions salesmen are becoming as tests were carried on in parallel pervasive an ethnic trade as with the development of an elecwhisky salesmen. The two major which has recently been abantelecommunications companies, doned in favour of the digital CIT Alcatel and Thomson CSF, one. Local analogue exchanges acting in impressive unison with will, however, continue in prothe French PTT and Government, are opening doors prepotentially other companies had assumed and is ranked fourth in the was sown up by the U.S. While world league of numbers of lines it is not certain what effect the installed—after Western Elec-

THE GENEVA Telcomm 79 ex- gesture had on the Egyptians, tric (the Bell manufacturing

MT (Thomson CSF): both are being ordered for the expanding French network, but both must tion-and employment-are to time, the French PTT is plan-

investment programme in hand, which will act as the main spur far the dominant nnc is Siemens (though the tTT subsidiary, chases account for 80 per cent of the spending on telecominunications equipment in the Federal Republic: the aim is the ambitious one of raising the current 60 per cent rate of tele-phone penetration in 100 per cent in 1985.

that Siemens, thought to have heen lagging the field in the introduction of digitial electronic switching, has carefully brought on plans for moving into a digital system, expected to be on world markets in the early 1980s, a little before the UK System X. The company has heen working on a system for most of the 1970s, but in 1977 was forced to admit that its This dumestic movement is plans bad been rendered obso-paralleled by a great flurry of lescent by the advances in micro-Persian carpet sellers or Scotch tronic analogue system, much of

duction for some time to come. The digital EWS system is, viously shut to western manu-factures, capitalising on their System X, highly decentralised connections with Francophone and thus composed of a complex African and Caribbean states of interfacing programmes. It is and making highly sophisticated in this area where much of the entrees into the U.S. markets. debugging has had to be done: A recent example of their flair according to Stemens executives. is the initiative taken by CIT that prucess has been largely Alcatel when, earlier this year, successful, and the company is the company flew in an ex-confident it has a world beater, change to Alexandria, in The company is already a major Egypt, and installed it free of exporter of conventional ex-charge in a bid to break into changes and of telex systems the potentially lucrative (for which it is famous): it thus Egyptian market-which most has its foot in maoy markets,

One reason for the early suc- siderable economic muscle and efficiency must be taken on trust. If it does emerge as living up to its creators' expectations, becefit from the world boom in telecommunications expected to last throughout the 1980s at

Italy, with a less well-developed bome market and he kept at present levels in the with substantial foreign ownercompanies' plants. At the same ship of its telecommunications manufacturing plant, is less ning to put a teletext terminal well represented on the loter-in every home over the 1980s, oatiooal scene than its three and will shortly be letting con-other European partners. The tracts for the production of major grouping in manufactur-10,000 units a month. It is clear ing is the SIT-Siemens company, that the French no longer wish which in spite of its name has to he considered the had tele-phone joke of the continent. no longer any German coonec-tions, being nationalised after In West Germany, the Bundes-post has a five-year DM 25bn half of the lines installed in Italy: the other half is taken up by three foreign aubsidiarieson the companies, of which by General Telephone and Elec-far the dominant nnc is Sientens tronics of the U.S., FACE, an (though the tTT subsidiary, TTT subsidiary, also of the U.S. Staodard Elektrik Lorenz is also and FATME, an Ericsson of significant). Post Office pur Sweden subsidiary. There are some 11m lines in Italy, not many fewer than in France: but the expansion programme is, at 600,000 lines a year, less than one third of the French programme. This means that the domestic manufacturer. Siemens, is badly placed to open It has recently become clear up an attack on export markets as it is being encouraged to do by the Government.

In most ways, the three subsidiaries, with access to their parents digital electronic techoologies, are much hetter port-though the parent com-panics only not wish to use the Italian plants as export bases. FATME is to a large extent an exception to this: Ericsson has made the plant its major pro-ducer for computers for its AXE range, and it exports all over the world. For the moment, however, the Italian PTT has not came down on the side of SIT-Siemens, or of the multinationals, in developing ao export strategy. It seems likely that SIT-Sientens will develop its owo digital system for the 1980s, hut it will have to do very well indeed to take a reasonable share of export markets. Telettra, an electronic subsidiary of Fiat with considerable computer expertise, might bave been expected to aid the State company, hul it appears to liave drawn closer to GTE and has signed a technical agreement with the ES subsidiary. As is customary in this context, any decisions which the Governmeet may take will affect employment patterns, an area which is at least as heavily mined politically in Italy as elsewhere in Europe,

STCmakes

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U.S. groups jockey for power

THE U.S. market for telecom- made by Arthur D. Little, the Office1. Like Bell, GTE also has munications is the largest and U.S. consultants. A. D. Little must sophisticated in the world. By common consent, the Bell U.S. telecommunications market strong in consumer electronics operating system is both highly to have been \$14hn, and see it and industrial electronics as efficient and llexible, while grawing to around \$26hn in well as telecommunications. The line numufacturing companies 1987. The proportion of the third operating company of size are often world leaders. The world market will, however, telephone density — at around shrink from 47 per cent in 1977 140 telephones to 100 house to 40 per ceot in 1987. The holds, according to a recent consultants believe that it will holds, according to a recent consultants believe that it will estimate — is by far the highest in the world. The pervasiveness and importance — whose aize is also seen as network in U.S. industrial and social life has contributed to theories, largely generated in the U.S. by the late 1980s). A. D. Little the U.S. has the property of the consultants believe that it will remain the largest market in the world, with Western Europe aize is also seen as doubling—the second largest former and authority and the late 1980s). A. D. Little the U.S. has the numbers of social life has contributed to theorics, largely generated in the U.S., that we are moving into an "information society," a "post industrial society" or the "technotronic age." where information handling and trans-mission is as crucial an element as the provision of steel or chemicals to the maintenance of

Does that not say it all? Is it not possible to award the accolade of success and draw a curtain on a trouble-free world? Of course, it is not: indeed, in the current period, U.S. tele-communications are going through a highly disturbing scries of events in which the major groups which make up the industry are jockeying for power, and in which the verities which have tended to rule in very much in question. Some of the problems, indeed, stem from the very success and high growth described above: like its politicians two decades ago, U.S. telecommunications companies are looking for new frontiers: indeed, must conguer them if they are to avold a possibly damaging cuthack in

estimates the 1977 size of the helieves that the numbers of telephones in service in Western Europe will surpass those in service in North America (Including Canada) by

Target

For most Americans, the provision of a telephone is courtesy of the Bell network, formally the American Telephone and Telegraph company, the largest telephone company in the world and one of the five largest companies in the world. It is an operating company for around 80 per cent of all U.S. around so per cent of all of scritizers, and also has a huge manufacturing arm, Western Electric Bell's massive presence is, of course, regulated—though that regulation, as we shall see later, has been progressively chanced over the past decade, and Bell's grip on the U.S. telecommunications scene weakened somewhat. .The second company —a long way second—is General Telenhone and Electronic, which administers to the tele-

a manufacturing arm. Antomatic Electric: unlike Bell, GTE is is Continental, currently under-taking a crash modernisation programme. In the manufacture of telecommunications equipment of all kinds, both Western Electric

and Automatic Electric are, of course, strong, while others, like ITT, RCA, Wescom, Stromherg Carlson, TRW and the Canadian company Northern Telecom compete for the rich business systems market, which has the highest estimated has the highest estimated growth rate at over 10 per cent. At the same time, the thrusting semiconductor companies are now heginning to look to the telecommunications markets, not simply as clients for their chips but as a sector in which they can market packages. moving up from the smallest components into the marketing of systems, blurring the edges hetween components suppliers and manufacturers. Again, the convergence between the computer and the telephone has meant that IBM, with its massive command of 60 per cent of the world's computer market, is beginning to feel its way into communications, especially in husiness systems. The competition is the fiercer because the new technology has exploded the old demarcation lines; for the moment, the

their industries.

The first, some facts—these parin the nature of projections

which administrate to the consorbing with a

constraint of the facts—these parin the nature of projections

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phone needs of 8 per cent of growth elsewhere, especially European countries, which number of UK companies, hid

in Europe, are beginning to be generally have the support of hard for the \$2hn plus Saudi
covers roughly the same amount higher than in their home their PTTs—the British Post Arabian network extension conin the nature of projections

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digital line system.

switching system.



Retiring chairman of AT&T, Mr. John de Butts.

demand. This is perhaps especially the case with the giant Western Electric, which has helped put telephones in virtual Electric and Section 1987. The Bundespost from Siemens, the French PTT from CIT Alcatel and Thomson CSF, and so on. They have thus the section of the past risker. ally every American building, now must find foreign huddings in which to put them if it is to sustain production at present levels. So American telecommunications companies have become more export con-

STC scientist invented pulse code modulation.

STC conceived optical fibre transmission.

local analogue electronic exchange.

repeatered optical line system.

communications system.

undersea communications system.

STC installed the first UK medium-to-large

STC installed the world's first high-capacity

STC developed the world's highest-capacity

STC installed Europe's first high-capacity trunk

STC installed the first computer-controlled p.c.m.

STC installed the world's first solid-state undersea

turned to the next richest market, the Middle East, and have scored some successes. GTE, for example, won a \$500m contract to supply 680,000 lines to Iran's telecom-

munication company over two market shows no signs of settling down.

While the main market for these companies remains the U.S., all have noted that rates of growth elsewhere, especially in Europe, are heginning to he higher than in their home in their PTTs—the British Post the more export conscious and are fighting hard for years ago—a project which turned sour after the Islamic turned sour after the Islamic moment suspended. Western the strong presence of the Electric, in a consortium with a number of UK companies, hid generally have the support of hard for the \$2hn plus Saudi their PTTs—the British Post the west to the

Ericsson/Phillips/Bell Canada defensive. The Carterphone natural ones and the most efficconsortium in 1977. Nothing decision was followed by the lent way of running a service. deterred. Western formed Specialized Common Carrier In a running interview given another consortium, this time Decision of 1971, in which Bell to the U.S. magazine Telewilh GTE and Continental, to \$2bn, but worth up to ten times attempt by the Federal Govern-that over the next 20 years. The ment's anti-trust division to contract would include the construction of a manufacturing plant in Egypt, supplying both Egyptian and — politics per-mitting—other Middle East countries as well. The deal faltered, reportedly because of lack of U.S. Government support for the financing: that support has now heen forthcoming, but the deal is still to be concluded. Other companies have prepared hids for the contract, and the French in particular bave been active in attempting to calch the Egyptian's eyes. The Egyptians appear to he in no hurry to settle their favours - though many helieve that the Camp David agreement, together with

original consortium. In the home market, regulation and deregulation occupies the minds of the companies. Since 1968, when the Cartercompany (now in the possession equipment to the Bell network to what they see as a spirit of in the teeth of AT&T, the unrestricted competition, feelmighty Bell has been on the ing that some monopolies are

lost its case for a total monopoly ever, this year the "rewrite" sense for most of our Bell (see below) bas been reintroduced without the call for Western to be divested.

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Framework

Now, the new chairman of the Senate sub-committee on a legislative framework to an industry which has changed enormously since the mid-1930s and which, as the hill's drafters ruefully acknowledge, continue the promise of U.S. fighters for to change rapidly even as they the Egyptian air force, may in attempt to legislate for it. The details of it are not yet generthe end sway them towards the ally known, hut most expect thal Since 1968, when the Carter atlempt to deregulate much of phone decision allowed a small the market, allowing unreatricted domestic and foreign Interest." of the UK company Cable and competition. Bell, and to a Wireless) to interconnect its lesser extent GTE, are opposed

communications, Mr. John dehid for the even richer Egyptian over transmission. In 1974, an Butts, reliring chairman of contract, worth initially some anti-trusl suit was filed in an AT&T, strongly defended his pro-monopoly stance by arguing that total deregulation meant divest Bell of its Western Etec- the customer paid more. "Comsense for most of our economy ... (bul) ... long ago, it was recognised that the telephone service was one of these activities that could be carried out more rationally and efficiently by one enterprise rather than two or more. What I've heen trying to say is that before we Communications, Mr. Lionel van
Deerlin, has set in train the rewe'd better link down the road we'd hetter link down the road write of the 1935 Communications Act. a process which will take some months—possibly we do really what is at some months—possibly we do . . really what is at but which seeks to give issue is how the common costs islative framework to an of communications services will classes of users. Traditionally that allocation as a matter of tial customer in the interests of assuring the affordability of basic service. Competition tilts the balance lo the interest nf It will he broadly hostile to a preservation of all, or even any of the Bell monopoly, and of reasonable people to find the of reasonable people to find the balance which, it might come to he agreed, represents the public

> The years immediately ahead halance will he.

Hard sell in the Middle East

communications, or the fastest

Another glance at the world market graph on Page I will make the point. Of the areas shown all except the three at the bottom of the figure are committed, wholly or in large part, to huying from domestic

Of the hottom three. Latin America has attracted the interest of Siemens, Ericsson Italian colonies. These loyalties and ITT for many years, and have been wearing thin for their presence means tough some time and though Cahle competition for new entrants. and Wireless, the UK State-The Far Eastern and Pacific owned company which provides towards the Japanese, though vices, still manages or partthe UK remains strong here manages many networks, and there. But in the Middle British suppliers are no longer East. although there is a automatically chosen the more

Thus it is that as US and European companies look for markets for their latest equip-ment, the Middle East is often top of their list of areas to explore. Here we will include, as the companies often do, the oil-rich African State of Nigeria, since its buying pat-terns reflect many of the characteristics of the Middle East States.

A recent report by consultants Frost and Sullivan on marketing in the Middle East contained a long list of do'a and don'ta to would he marketeers, and stressed the difficul-ties of the area. "True market sizes," the report says, "cannot he determined hy methods developed for Western coun-tries, for markets do not follow the traditional growth sophialicated developed countries growing in an orderly fashion. The hest words to deacribe market conditions are chaotle and erratic. no reliable historical market data for the majority of the conntries in Africa, the Middle East and the Near East. In many cases, estimates of the very population of a given country can be off by 30 per cent either way."

Distressing

Such lack of data is distressing for communications companies, which more than most like to be armed with sheaves of atatiatics, and it is a necessary caveat to he borne in mind when reading figures on the market including those reproduced here. While no doubt aatisfied with progress of the as accurate as their producers can make them, they are subject to quite dramatic revision as ahle, and estimates differ widely. For instance, the ex-perienced U.S. consultants A. D. Little predict 3.5m new lines for the Middle East in the period np to 1981, and 3.8m more from 1981 to 1985. But for the Middle East in the to-back contract with Caole and that business conditions are period up to 1981, and 3.8m Wireless worth up to £400m. easy or pleasant, they continue since government spending but it is likely that UK complans may he pushed up sharply, panies will henefit from the or cut hack aharply, in that deal.

THE MIDDLE EAST is not the period, the estimate can only most lucrative market for tele- he a "best guess." growing, or the easiest to sell are increased when it is recog-But it is the newest to nised that in most cases those notoriety for the unreliability open up, and, more important countries with most cash and of its telephone system, and telecommunications most desire to Instal an ultra- President Anwar Sadat's Governcompanies, it is the freest modern telecommunications ment has moved to cure the States with rudimentary system most rapidly are usually problem by proposing a 20-year

even though they may have a usually depend on outside contraditional circle of manufact ractors for everything, including eventual management of the system. This posture of extreme dependence on overseas expertise has given rise to allegations of price loading and extensive bribery, which con-The Europeans are traditional

suppliers to much of the Middle East, and to Nigerla, simply hecause many of the countries were British or German or increasingly a wide range of telecom serfelt to be strong enough to present unheatable competition. equipment. Besides the Euro-peans, both U.S. and Japanese companies are gaining favour: the first for quality, speed of delivery and as result of diplo-matic pressure, the second on

price, apeed and persistence. Saudi Arahia, the richest of the States and thus the focus of the most attention, shows in its purchasing nolicies the eclectic nature of Middle Eastern buying, and explains why the comnanies do not regard the market as "sewn up." A U.S. Departmenl of Commerce survey has noted that (a) there is no native manufacture, thus imports make no the entire market (h) cable television sys-

and consultancy work (A. D. Little), together with a large number of such components as thermionic valves, transistors and so on. They were less well represented in telecommunications, where companies-Plessey, GEC and consultants Preece Cardew and Rider-and other European all taken significant orders. The Saudi market made ils

most dramatic announcement urgency (to huy systems) is so some two years ago when it became clear that of three con-sortia hidding hard for the \$2-Canadian group made up of Ericsson, Philips and Bell Canada had been successful. The usual allegations of sharp prsc- know the difference. tice showered down on the successful consortium like confetti. Eastern The Saudis, however, seem work so far, since the contract has recently been extended. At their communications system wholly upgraded, for which the prime contractor is the UK Ministry of Defence on a hack-

period, the estimate can only he a best guess."

Egypt ls, of course, hardly oil-rich. It is instead people-rich, which means that it is States with rudimentary system most rapidly are usually problem by proposing a 20-year systems rarely have firm for those with the crudest system modernisation and expansion ward commitments to suppliers at present. They must thus programme worth anything up to \$20hn. A consortium com-posed of Bell's Western Elecwhich did the initial plan for the expansion - has heer thought likely to take the deal, which involves the construction of manufacturing facilities for electronic equipment in Cairo. Other companies are seeking to get all or part of the action, but

> Much high-level diplomacy has been put into the contract, and continues to he. The U.S. needs the husiness, eapecially after its comparative lack of success in Saudi in 1977 (Wesof Iranian husiness (GTE). The combination of hunger and size

Setbacks

Nigeria, which sought to leap forward at least as rapidly as Saudi, suffered some setbacks to its efforts. Its third development plan set aside \$1.8bn for telecommunications with Northern Telecom then with 1TT and Siemens, proved celled, Northern dropped out of the market and growth bas been set in train. with ITT remaining as a major

contractor. In general, the Middle Eastern/Nieerian markets now after a period where companies tems (RCA), mobile radio treated the area as a latter-consequipment (General Electric) Yukon. Both sides are more consultancy work sophisticated. The sellers have to take on absolute trust the nrecents which were described Frost and Sullivan as "Middle Eastern Myths"—a selection of which are:

• "They have lola of money to throw around." "The oil-rich countries are companies—Ericsson, Siemens the easiest places to sell."
and Philips in particular had Prices in the oil-rich countries don't count, because money is so abundant and the

> @ "Schmear (bribe) the right nersonis) and you'll be set up

\$3hn contract to exlend the for life."

Saudi network, the Euro- "You can dump all your ohsolete equipment on lo the Middle East; since they're so hackward anyway, they won't

> For their part the Middle renortedly ceased to regard all overseas comnanies as eon

the same time, the country's where possible with the State or National Guard are to have a State agency, in the helief that here honesty is more likely to prevail. (The Saudi National While few companies will insist

J.L.

STC. We help people communicate. ke a habit of being first.

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A British Company of TTT

THE HEART of the telephone are arranged in vertical banks. and this should begin to ring dial on the telephone instrusystem in Britain, like many Each time the subscriber once the final selector arm ment operates at a speed of 10 electro-mechanical equipment—in fact an auto-

countries such as West Ger- bank of selectors which moves a many, Netherlands, Sweden and certain number of positions France are all investing heavily across a row of contactsin modern electronics tech-depending on the digit dialled.
nology, the Strowger system is Once the arm bas come to still the predominant system by rest, telephone calls are which

Strowger known as step-by-step systems. They are made up of a series of rotary switches called selectors. The switches in the selectors telephone to receive the call

other countries, is still based on turns the dial on the telephone, electric pulses corresponding to the number dialled are sent matic exchange invented by Mr. down the telephone line-which Almon B. Strowger, an is a pair of copper wires—to American undertaker, in 1889. the exchange. There the pulses While Britain and other activate a moveable arm in one

> the caller becomes connected to another selector and waits to receive the next exchanges are set of pulses from the dial. A contact on the last selectorrepresenting the last number dialled-is connected to the

comes to rest.

When originally designed, exchanges were considered to be extremely fast since it took only a few seconds automatic make an connection. However, modern telephone demands bave put a strain on exchanges which are simple, and once were cheap to instal. These exchanges are slow because most telephones today have numbers of at least seven digits, and international calls

can bave up to 15 digits, which makes dialling a very tedious superior to Strowger. and alow business with this kind of exchange. In Britain, for example, a

pulses per second, so that when the digit zero is dialled it takes a full second to generate the pulses. In reality the equipment is so slow that an extra space is provided between the digit one and the end stop of the dial to allow it to work properly.

However, in the 1940s another electromechanical type of electromechanical exchange appeared to challenge the Strowger system. This was Crossbar, originally invented in the U.S. in 1916 but first installed in Sweden in 1926. Crossbar is in many respects

It uses a series of borizontal and vertical wires connected to each telephone via the

to the horizontal wires from the other at the point where they The exchange is governed by a common control which operates the matrix uf and makes wires connections.

The crossbar matrix and its principle of common control was an important step for the telecommunications industry because it was realised that Crossbar could form the intermediate step towards achieving totally electronic telephone switching.

In fact, many electronic exchanges today are simply modern versions of Crossbar making use of electronics tech-

nology to update the design.

The surprising thing is that most British calls are still going through the slow mechanical Strowger exchanges. In 1975 it was estimated that about 87 per cent of British subscribers were still connected to Strowger, in contrast to the U.S. which bad made considerable investment in the intermediate Crossbar with its common control system. By 1965 the U.S. had installed its first electronic switching system, the ESS1.

Disastrous

Eventually Britain, after a disastrous start, came up with two versions of electronic exchange: the TXE 2 for suburban and rural areas and the TXE 4 for larger towns and cities. (TXE 1 and 3 had been experimental designs only.) But these exchanges are not as advanced as foreign designs because they do not have the important feature of stored program con-

For totally electronic telecommunications bave borrowed extensively from the computer industry. Common

exchange. In very simple terms, to telephone, the vertical wires from one telephone are linked exchange is replaced by stored program control. This type of exchange is highly flexible since all the information about every telephone subscriber is kept in a computer memory. Changes are made simply by

punching out instructions on a computer terminal keyboard. A subscriber's number can altered in this way-in electro-mechanical system an engineer physically has to disconnect two wires on the exchange and relocate them.

Electronic exchanges cheaper, more sophisticated, more reliable—and so need less maintenance—and can be stalled faster. The use of computer techniques greatly improves the facilities that can be offered both to the subscriber and the telecommunications authorities. For example, electronic system provide a complete billing statement which is impossible using the electro-mechanical exchanges. It also can monitor and analyse the number of telephone calls that are going through the system so that authorities can plan the expan-sion of their networks accord-

Electronic exchanges can be designed using two fundamentally different techniques these are known as space division and time division. Strowger and Crossbar are both time division systems, hence Britain's TXE exchanges are also based on time division because they will have to work side by, side with the old systems for many years to come.

In space division systems, a separate physical path— i.c. the two copper wires—is needed for each telephone subscriber. Time division systems do not necd such individual connections at the exchange.

In time division systems each

FIGURES FOR EXCHANGE

MAKING A CALL ON A STROWGER ELECTRO-MECHANICAL EXCHANGE

verted into a string-of binary digits (the coded signals which are used computer systems). This allows many separate conversations to be interleaved to form a single stream of digits using a technlque called time division multiplexing.

Eventually, all exchanges will use this system since it means that instead of each home or business having its uwn line at the exchange a block of 50 to 100 houses, say, would share a-limited number of lines. The number of lines provided would depend on determining statistically the average use of a telephone each day and allowing a good margin for peak use.

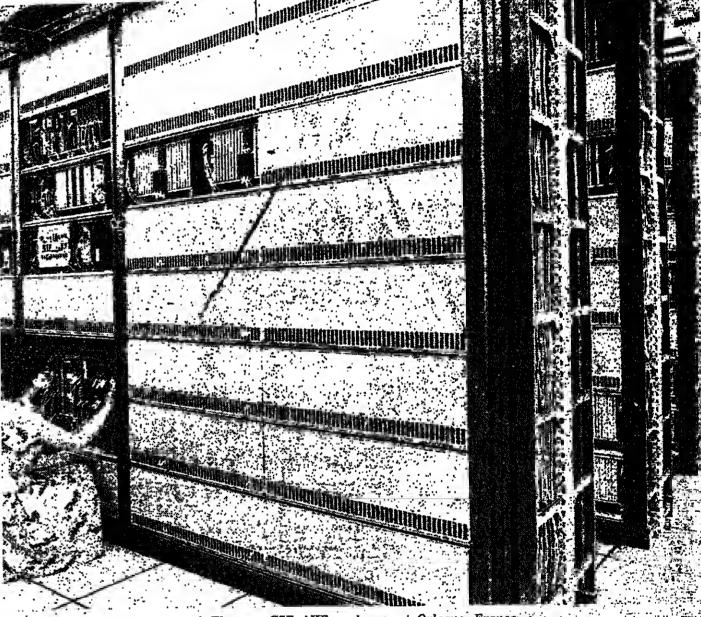
Crowded

Unlike shared lines on the electro-mechanical, crowded division exchanges. space subscribers connected to electronic systems need never know they are sharing a line

as a caller picks up his receiver, tho clectronics detect this and search for a spare unused line and connect it to the telephone. This gives great benefit to the telecommunication authorities since it means that not only can they plan the growth of their system more carefully and have more information to hand, but it also cuts down the amount of new, expensive telephone cable which has to be

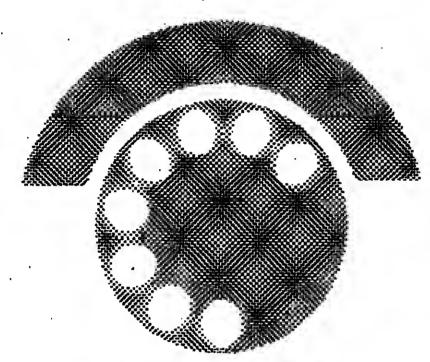
installed each year. becoming increasingly dependent on the computer it is a logical step to technology to the telecommunications network since having digital techniques extending men the home offers many possibilities, including home computers linked to husiness computers over the telephone network, electronic mail and electronic funds transfer, and automatic reading of electricity and other meters.

Elaine Williams



A Thomson-CSF AXE exchange at Orleans, France.

"Le Savoir-faire"



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TELECOM 79 - PARC DES EXPOSITIONS

A list of Philips' contributions to international telecommunications over the past four decades would fill many pages, but it is more useful to consider the present rather than the past. A small selection of projects currently being executed around the world provides an indication of Philips' scope and ability in telecommunications:

Philips is right on schedule in the massive Saudi Arabian telephone expansion programme, one of the world's largest and most technologically advanced telecommuData Communications

In seven locations ranging from -Asuncion to Nairobi, Philips is installing computerized message and data switching centres for the vital Aeronautical Fixed Telecommunications Network.

Traffic Control

The world's largest computerized traffic control system, automatically supervising over 1000 intersections, is being installed in Mexico City by Philips Telecommunications.

Among the many PCM and FDM transmission systems currently being installed is the new 1400 km Saudi Arabian backbone cable route, the world's longest 60MHz coaxial system and the first to carry telephone and colour television channels simultaneously.

Philips Telecommunications, P.O.Box 32, 1200 JD Hilversum, the Netherlands.

Score Ability Scope Ability Scope Ability Scope Ability in Telecommunications



Philips Telecommunications



اهكذا من الدم

Debut for System X

IN THE 1960s, when almost placing modules with new A decade of research and The everything about Britam's designs.

development in a dozen indicting in fully electronic tele—

System X is the brainchild of laboratories in Britain lies be picks phone switching was an unknown the British telecommunications factor, someone dubbed the industry, born of the dual dename stuck. The switching system which makes its inter-national debut in Geneva this week, as the focus of the British exhibition, is now known commercially as System X.

The concept is elegant and extremely aimple—a family of solid-state electronic modules which can be rearranged in a British industry-customer and great many ways to make an all major suppliers—have col-exchange of the capacity and laborated as a single team. The other parameters required by Post Office alone has already the customer. It is "electronic spent more than £150m on repopular toy in which standard plastic shapes are snapped to-gether in make the desired Pilcher, managing director of The modules of Plessey Telecommunications, popular toy in which standard System X plug into each other points out that the real strength to build up the exchange—anything from the aimpleat to experienced teams are pooling
machines more sophisticated resources to develop the allthan the system designers can important computer programs. envisage at present.

which do not yet exist and re- kets.

System X is the brainchild of mands of the world's thirdlargest telephone administration, with its dramatic rates of growth in traffic, and of suppliers which wanted a system with real export potential for a long time ahead.

It is the first technical development in which the entire "-modelled upon the search and development and expects the final bill to be a least resources to develop the all-

"There's every chance we'll Ultimately, telephone switch-ing and transmission in Britain liable software," he believes. It is to be integrated through could be the deciaive factor in System X, by adding modules selling to many overseas mar-

A Post Office research engineer uses a logic probe to massure a line card on a

System X sub-system

development in a dozen indicates the source when be laboratories in Britain lies be- picks up bis receiver, and prohind System X. The basic idea vides the required destination began to gell only in 1976. Not system then asks a processor to until the end of 1977 was there calculate a path for the conhardware to show, but in the nection and to instruct the last 18 months the engineering switching that this is the path bas advanced rapidly. The first to follow. experimental System X ex- Once a expected to be ready for testing code modulation (PCMI to at the factories of GEC and make an analogue-to-digital conPlessey. By mid-summer 1980 version at one end, then the Post Office expects to be reversing the process at the

Records

In any electronic exchange, computers continously control the process of setting up and disconnecting the calls. Simultaneously they perform the "housekeeping" chores of compiling records of charges, traffic density and system per-formance. The first task of System X is to set up the call. formance.

long trains are constantly arriving but stopping only very briefly. The porters are rushing bags (the bits) from one train to another in a sequence and at a rate which ensures that each one will arrive at its destination—and in the right

Once a path is established change was demonstrated to top the electronics must be able to Office executivea this send a continuous stream of spring. By the end of the year speech signals in both directhe first prototype models are tions. It does so by using pulse

installing its first prototype in otber end. Thus, speech signals are sampled in bits at the rate Baynards House, its new headof 32 timea a second and 30 of these bits—two are reserved for housekeeping—are transmitted through the exchange. Inside the exchange they mix with many other digital pulses, each

representing a fragment of someone'a words. For the exchange the problem might be likened to one of a railway station in which very

The special feature of System X is the way the large number of electronic manipulations needed on each pulse has been assigned to modules. The modules are totally interchangeable and can be put together in such a way as to provide an exchange with the characteristics and performance needed in any given aituation, large or small, simple or complex. They are a family of building bricks. The over-rlding objective has been infinite flexibility: a system adaptable to any situation from the smallest local exchange to the largest international

The core of any System X exchange will be the digital switching sub-system (DSS), of which there may be as many as 11 to safeguard against breakdown. This will be driven by a dedicated computer, the pro-cessor sub-system (PS), representing perhaps 10-15 per cent of the cost of an exchange but about 90 per cent of its in-

In turn, several System X ex-changes will be supervised for performance by another comof developing a modular system by dialling the number. The puter. The aim must be to establish a synchronous telephone system with the same bit rate throughout, if information is not to be lost or repeated. So. each exchange will have its own atomic clock; and each will be "listening" to the bit rate of several other exchanges and conatantly sending out signals to speed up or slow down their bit rates in order to maintain synchronisation.

. Another important module is the one which converts analogue to digital signals and vice-versa. This is the analogue line ter-mination sub-system (ALTS). As System X develops, however, the ALTS function will probably be performed not in the exchange bnt at or near the telephone itself, for example as part of a telecommunication terminal.

ariety

Altogether, there are seven of these modules under development from which a variety of System X exchanges can be assembled. No less important. however, is the family of com-puter programs—software packages-being written for the processor sub-system. The PS consists of a large and a small processor together with a number of microprocessors, Between them they provide the "brain" of an exchange. Individual programs—nine are under development—take care of such functions as call accounting, overload control, day-to-day system management, and the compiling of statistics for management planning.

One programe will constantly scrutinise the entire exchange— software as well as hardware for signs of trouble. This is the maintenance control sub-system (MCS), one of the most exciting concepts in man-machine relationships associated with System X. The engineers will be able to interrogate the exchange by way of this program, using a video display uolt and printout

to find out what the machine is "thinking." But the idea is that once the exchange is in routine operation the MCS will call up the local administrative centre (LACI automatically if it believes it needs human help. Otherwise,

It will be entirely automatic. David Fishlock

Revolution in cable making

ONE OF the most vital, yet un- of commercial applications.

Submarine cable. been cables. However, this sec- marketable strands of glass which can carry hundreds of telephone conversations simultaneously.

Eventually, optical cables will which have to be faced, supersede the conventional copper cables which lie buried in telephone cable ducts through-out the world, but at present they are still very much experimental systems.

Most European countries, and the U.S. and Japan have been active in pursuing the design of telecommunications systems which incorporate optical fibres since they are ideal for use with totally electronic digital ex-changea which are now being introduced all over the world. In addition, optical fibres are far smaller than traditional designs, and are immune to elec-

trical interference. Experimental systems have been installed for evaluation hy companies such as Pirelli in Italy. Siecor in Germany (Siecor is a joint venture between Siemens in West Germany and Corning Glass in the U.S.), Philips in the Netherlands, Thomson CSF in France and the British Post Office has several systems installed using equipment from STC, Plessey and BICC.

However, it is estimated that the optical fibre market will not take off until well into the 1980s. A report by Frost and Sullivan earlier this year forecast that the current demand of \$11m worldwide for optical fibre would increase to \$60m in 1987 and then leap to a value of \$179m in 1992.

This potentially high demand would come from the provision of wired home services such as cable television, automatic meter reading and electronic funds transfer. The telephone and telecommunications market alone will be worth more than half the total in 1987, at \$32m rising to \$120m in 1992 or nearly two thirds the total. Britain, which ploneered the

development of optical fibres in the late 1960s, bas already begun to fall behind the U.S. and Japan in the development . Telephone cord; and

glamorous, sectors of the tele-Research work has not been communications industry has moving fast enough into tor has also been undergoing a although several experimental satisfactory from the point of

> The Post Office has been aware of this shortcoming for a long time and has been taking as multiplexing, more telephone calls can be transmitted down calls can be transmitted down. with the aim of producing the first generation of optical fibre telecommunications links—a system which would also be a sbowcase for potential overscas customers.
>
> calls can be transmitted down as calls and be transmitted down as communications link. This means that instead of having to instal new cable and all the necessary ducting the Post Office can delay such work and cven avoid doing it altogether.

In selling systema overseas Britain would face strong conpetition from the U.S. since the U.S. Corning and ITT organisations are leaders in the manufacture of optical fibre. Japan is still an unknown quantity but is certainly with the leaders in performance and the country's ability to export at very competitive prices make the Japaneae a force to he reckoned with

But for the present, con-ventional demand for copper cables will remain stable. Britain about 95 per cent of all telecommunications cable is bought by the Post Office from four principal manufacturers: BICC, Telephone Cables (a subsidiary of GEC), STC, and Pirelli General.

Telecommunications can be divided into four basic

External telephone cable

which comprises (a) coaxial cable used in long-distance telephony on national and international

(b) "Quad" type junction or trunk cable used to connect main and local telephone ex-

(c) subscriber cable which is used to connect a local exchange to a cabinet in the road, and a distributor subscriber cable used to hook up an individual telephone set to a cabinet or a private telephone exchange.

Internal telephone cable;

chases are for external cable. Sales in 1976 were valued at major revolution of its own be- systems are installed around £64.7m and have decilned cause of the development of the country, the routes are slightly since 1974. The Post optical fibres—the bair-thin short and are not entirely Office has managed to keep its satisfactory from the point of demand for copper cable at a view of gaining good experience fairly stable level because of the engineering problems technical advances which have allowed it to use existing in-

stalled cable more efficiently.

Once optical fibres become established it would also mean that when a duct becomes full of conventional cahles, it would be possible to squeeze in a small optical cable with the same capacity as a conventional cable. Because the optical cable is so much smaller it can fit into dnets congested with copper cables and again save the Post Office the expense of digging up the road to provide new ducts.

Another way of saving on the amount of cable which has to be installed wil be hy the introduction of totally electronic exchangea coupled with optical fibres. This saving will be achieved because instead of providing a line for each telephone aubscriber in an area as Is necessary now, the Post Office will have only to provide a proportion of them.

Since at any given time only a few telephones will be in use it is possible to predict this number statistically, so that when a caller lifts a handset the electronic equipment will seek an available line and switch it to the subscriber's telephone. He will never know that he bas to share this line with several others.

The development in electronics telecommunications and optical fibres will eventually cause the conventional cable market to decline but since glass is more readily available than copper, which becomes increasingly expensive, there is little cause to regret its passing.

Elaine Williams

Not just System X -here are more engineering achievements of Post Office Telecommunications.

- * Subscriber Trunk Dialling for everyone in the UK.
- * International Direct Dialling leads the world in giving 94% of customers access to as many as 400,000,000 phones in 86 countries.
- Prestel, the world's first public viewdata service, already sold to West Germany, The Netherlands, Switzerland and Hong Kong.
- * Optical Fibre Transmission, a new method of sending calls using pulses of light.
- * Confravision, a unique TV link between major British cities that saves businessmen unnecessary travel.
- * International Packet Switching Service. the first commercial intercontinental packet-switched data service to
- * Radiopaging, the world's largest integrated network now being installed.
- * Telconsult, a service which helps other countries set up sophisticated telecommunications systems of their own.
- Y Orator, a new audio conference facility



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Technology and the free society

nothing; without energy matter tures and the book. is inert; and without information, matter and energy ore disorganised, hence (Anthony Oettinger).

THE APHORISM above may stand as a text to a feature on the general theory which lies helind the growth of communications generally, and telecom- for new ideologies." munications in particular. For while the Anglo-Saxon races are notoriously unreceptive to notoriously unreceptive to theoretical matters, it is the case that this industry, nnlike previously crucially important industries-coal, steel, chemicals—has surrounded itself an array of academic underpinnings, explanations and theoretical constructs which apart from being a minor industry in themselves—have heen taken up by industry and

levelopment and strategies. The most popular theorist communications remains Marshall McLuhan, a Canadian academie, who coined the phrases "the medium is the message" and "the global village." and who, in a cintch of books written in the 1960s. propagated the general notion that the modes of communication were not merely by-pro-ducts of a given level of culture. but crucially shaped and determined cultures, social move-ments and industrial organisa-

sed in turn as models for its

McLuhan owed many of his insights to a lesser-known theorist, Harold Innis, whose ideas reached a rather smaller audicnee in the 1950s. Innis' arguments may he briefly appreciated from this excerpt his seminal essay. Minerva's Owl," in which he "attempted to show that sud-den extensions of communication are reflected in cultural disturbances."

The use of cloy fovoured o dominant role for the temples with an emphasis on priesthood ond religion. Libraries were built up in Babylon and Nineren to strengthen the power of monorchy. Papyrus favoured the development of political organisation in Egypt. Papyrus ond o simplified form of writing in the alphabet supported the growth of democratic organisation. literoture and philosophy in Greece . . improvement of scripts and feider discemination of knowledge enabled the Jeus

WITHOUT MATTER there is to survive by emphasis on scrip-

turn Christianity exploited the advantages of parchment and codes in the Bible ... printing brought renewed emphasis on the book and the risc of the Reformation. In turn new methods of communicotion weakened the worship of the book and opened the way

Thus, a given mode of com-munication is dialectical in its operation: it both is produced by, and produces, a determinant series of cultural effects. While it is clear, given an understand-ing of the insights of Innis and McLuhan, how historical media acted upon their societies, it is inevitehly less clear what is happening around us: we are rarely able to see the wood for the trees.

Crossing

Prof. Daniel Bell, who has written at length on these matters, hrings us up to date with a consideration of the effects of the most modern mode, that of the crossing of the computer with telecom-munications, now known as "compunications." In his essay. The Social Framework of the Information Society, Bell writes (referring to U.S. experience. similar in many respect to European): "The question we have been raising about the fusion of communications technologies — the rise of compunications - are not only technological and economic but. important, most Information is power. Control over communication services Is a source of power. Access to communication is a condition of freedom.

"There are legal questions that derive directly from this. The electronic media, such as television, ore regulated, with explicit rules obout "foir ness" of prescutation of view, access to reply to editorials, and the like. But the power, ultimately. governmental in that decisions about o station's future lie with the Federol Communications Commission. The telephone industry is regulated on its rates and conditions of service. The computer industry is unregulated and operates in a free banks



Marshall McTuban: communications guru extraordinary

agencies and by private corsplit up into discrete messages porations. Are they to be to workers, customers or other under Government superworkers in other offices. Comvision or unregulated? All of these are mojor questions

From these lines of thought we may distinguish bere two strands. First, can we begin to discern the practical effects compunications will have on our working practices, on industrial and economic organisation? Second. will the apparently inexorable development of the combined technologies, its evermore pervasive spread and tha power which, as Bell and Innis note, it gives to those government agencies and corporations which can assemble data and transmit the information to a multitude of stations, mean that widespread social changes are tn train as a result of the pos-

sibilities of the technology? The first of these questions bas become familiar to Europeans in the last two years. Compunications has been the subject of Government and other reports, and its potential effects forecast. Most agree that the office, in which more and more people now pass their working lives, will see major changes, unregulated. libraries hove unregulated. libraries hove been largeln privote ar locolly-controlled. Now areat dato banks are being largeln largeln locolly-controlled libraries are being largeln largeln locally-controlled largeln l being industrial or distributive pro- equivalent to eyes and a brain

mands are given and received requests accepted or rejected.

The new technology allows these processes to be systematised more rapidly than ever hefore—in a computer—and recalled immediately not only at the place of work, but at remote terminals linked through the terminals linked, through the telecommunications network, to the main storage.

In short—and given appropriate technology—infor-mation can be received, sorted and disseminated at an enormously rapid rate. The produc-tivity of bureaucracy is raised enormously, and so is the level of information which can be brought to bear on any problem. The systematisation of work has taken a leap: its effect on workers is to demand that they become more highly skilled in order to be able to deal with the mass of information their machines make available to them, while the effect on work processes is to make them more

efficient and more rapid. In manufacturing, the effects are less clearly seen. Automated production is already a

Once they are, then many more production line tasks could be automated, and may be controlled from eentral or distributed computers according to information fed to them from designing or planning offices.

The net effect uf the progressive introduction of automation into office and production work, then, is to allow streams of different grades of information to flow as directly as possible into the productive process, raising its efficiency and increasing man's dominance over nature which, as Marx once remarked, was a hallmark of civilisation itself.

For many, perspectives such as these raise spectres of a society peopled by automata, controlled by an oligarchy which has total control because of its monopoly of the com-munications mellia. It is true, of course, that the more effec-tive the means of communications, especially telecommunications, become, so the more potential there is for social control. Most terror storles of the future have something equivalent to the two-way videoscreen which rule Oceania in Orwell's

Alarm

In short, it is a source of alarm to many that we should be advancing into a world in which privacy may be threatened because of the potential our rulers will have for knowing a great deal about us whenever they wish to.

These issues are not confined. to future ages. Even new, the growth of data banks, and the increased demand for data transmission through public telecommunications networks, has caused several governments to study the problem and in consider ways of regulating data flows at least in part in the interest of privacy. At the same time, the burgenning of police data banks, holding records on everyone convicted of any offence, from the most minor, its which a policeman on the beat! may in theory have instant access, bas caused concern. So they should:

As a corrective to some of these fears, it might be observed that particular communications modes are, as we have said, interactive with society and with its polity, not determinant of it. It is the case that the communications systems we are developing could be a powerful weapon bands of a dictator ...

At the same time, the spread of cheap communications media and computers means that control-if defined as-ownership of new technology — is extra-ordinarily diffuse. The key question is the polity itself: where it is inimical to freedom, technology will aid it. Where it is supportive of freedom, technology can be made to aid that,

Satellites for all purposes

IT IS still less than 22 years since the world's first artificial satellite, Sputnik I, orbited the satellites of 100,000 circuits are Earth in 1957, and little more in orbit. New technological than 16 years since the first developments currently under effective communications sately study include multi-beam antenlite. Syncom: was launched in mae capable of providing highly 1963. In that time, communication concentrated "pencil beams" tion by satellite has progressed targeted to aarth stations on with aimost astenishing rapidity, and is now one of the most effective methods of linking the far corners of the globe.

The extent of the technological revolution already achieved in satellite communications can in satellite communications can he gauged from the fact that, whereas Syncom had capacity for 50 two-way voice channels, or one TV channel, the latest breed of satellite now under devalopment by Hugbes Aircraft Company of the U.S. for Satel-lite Business Systems of the lite Business Systems of the U.S. will have capacity for 13,900 simultanaous telephone calls. Even higger satellites are

envisaged for the future. So extensive has the world communications satellite system become that it is estimated that there are over 200 earth stations now in use, in over 100 countries, providing well over 217 antennae, with many more already planned for the 1980s. Although there has been a

substantial growth in the use of satellites for a wide variety of civil missions in recent years including weather forecasting, earth resources monitoring, navigation and environmental studies - communications remains one of the major applications with several major inter-

national organisations involved. The International Telecommunications Statellite Organisation (Intelsat), is the most significant of these. More than 100 countries are now members of this organisation, linked through a complex system of more than 100 ground stations and a series of aatellites nermanently located over the Atlantic, Indian and Pacific Oceans. The system's latest satellites, the Intelsat Vs. have an operatlonal capacity of 12,000 telephone circuits plus two TV channels. For the future, the for the late 1980s will be even

larger, and technologists can these was lost on launch in already visualise the day when 1977, but a second has been the earth's surface: direct inter-satellite links; and a variety of digital communications tech-

Comparable

In addition to Intelsat. another comparable organisation is being established called Inmarsat-International Maritime Satellite Organisation. This will make it possible for ships at sea to communicate instantly with shore stations thousands of miles away hy means of on-board transmitters and receivers linking directly with the satellites. The U.S. Navy has already been using such a system for some time and more recently it has also become available commercially in the U.S., through the Marisat satellites.

A programme of development of European maritime satellites also under way, called Marecs, derived from work also already being done by the European Space Agency on what is known as the European 900 kg for launch aboard toe
what is known as the European 900 kg for launch aboard toe
Communications Satellite Ariane rocket in 1983. This is (ECS). The first two Marecs intended to be the forerunner satellites are scheduled to be of a large platform in space launched by the European which will carry a variety of Ariane rocket in 1980 and 1981. future television and radia The inmarsat network is expected to have six satellites direct transmission into homas initially, comprising three or community antennae, Marecs and three Intelsat Vs enabling the dissemination of equipped with maritime pay-

In order to meet the requirements of the European posts, a trend is emerging for what telecommunications and broad- are in effect "regional satellites" casting administrations for -the provision of satellites point-to-point communications ground stations and other (talephones, telegraph, telex, related ground infrastructures, Eurovision TV programmes and data transmission) the Euro- stations where these dn not pean Space Agency some time already exist—so that particu ago developed the Orbital Test lar regions can have their Satellite (OTS). The first of own satellite communications CONTINUED ON NEXT PAGE

functioning successfully since 1978. The aim of OTS-2 has been to demonstrate the performance of on-board satellite equipment and to provide an experimental, pre-operational traffic capacity of 6,000 telephone circuits or 4,500 telephone circuits and two TV channels.

This work on OTS is already leading on to the development of the European Cammunications Satellite (ECS), the first satellite of which is due to be launched ahoard the Ariane rocket in late 1981. Earlier this year, an organisation called Interim Eutelsat, comprising 17 of the European telecommuni-cations administrations, signed a \$200m agreement with the European Space Agency for the provision of five satellites over the next decade, comprising the space segment" of the ECS programme.

The ECS programme will provide Enrope with a regional communications system, covering telephone, telex, TV and data transmission, capacity equal to 20,000 telephone circuits or 12,000 circuits and some TV channels.

Also under development in Europe is the H-Sat, a heavy experimental satellite of about communications payloads for TV and radto programmes over

Beyond these developments such as telephone and TV

much wider area.

Computer Aided Systems

Advanced technology transmission systems and services for telex users

C.A.T.S. Telex Relay

Telexes, which you have difficulty in sending, are forwarded either through the computerised auto-matic re-try service or through the store and forward service for manually operated telexes.

Multi C.A.T.

Our unique combination of word. processing and message switching computers enables us to provide the most efficient and effective service for clearing up your traffic peaks or difficult messages. We provide a highly sophisticated

and secure broadcasting service for Banks, Shipping companies or organisations with many branches nationally and internationally. We are also able to telex your advertise ments to potential customers, and can assist with preparation of distribution lists geographically and by trade classification. The equipment we use ansures the most competitive service.



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Viewdata still in its infancy

OF ALL the new services which tion is transmitted from the at present is the UK, where indexes to the information users, who are given an approarc heing born of the marriage computer to the sets via the Prestel was launched for which he wants. Alternatively priate password. between telecommunications and computing, viewdata is the one which has attracted the but the information is transmost public attention,

The reason is probably that it is a hybrid which is grafted on to the domestic television set and therefore promises a substantial new range of com-munications and information services to the ordinary house-

In spite of the very considerable publicity accorded to viewdata, and particularly to Prestel. the British Post Office's pioneering version of it, many people have still not grasped the extra-ordinary and revolutionary posibilities of the service.

In simple terms, viewdata is a method of storing words, figures and graphics on a computer in such a way that they can be displayed on a modified television set. The term view-

computer to the sets via the Prestel was launched for which he wants. Alternatively telephone network. A related domestic users in the London he can dial straight in to the mitted on spare capacity of the normal television broadcast channels.

In the UK the main viewdata system is the Post Office's Prestel, although there are now a number of private systems under development. The two teletext systems are Oracle, transmitted by the independent television network and Ceefax sent out by the BBC.

Tha terminology has become extremely confusing recently because of the development of rival systems by the French, who in their usual fashion have insisted upon their own words. As a result the word "teletex" is becoming used to describe all methods for displaying computer generated text on remote television screens.

However, the only country to

next three to five years.

Calculator

The system allows a user to call up any of some 200,000 "pages" (the information which can be displayed on a screen) by pressing buttons on a calculator style keypad which ramotely controls the set. A permacent connection is made rom the set through a standard jack plug into the telephona system. The system incorporates automatic dialling, so that the user only has to press a button in order to be connected the computer.

As soon as he is connected the iodex page will appear, which will guide the nser systems in which the informa- have systems in public service through a system of subsidiary

system, generically called tele- area earlier this year. An ex- desired page by looking up its text, uses the same basic format, tension to business users is ex- number in a printed directory. pectad in the autumn, with a The user has to pay the local gradual wideoing of coverage telephone call charge and a throughout the UK during the special Prestel connection special Prestel connection charge of 2p a minute while using the service. In addition he has to pay a charge for each page he views, levied by the organisation which provided the information. This can vary from zero to the case of adverinformation to 10p or 15p for specialised specialised husiness information. So far about 150 different organisations have contracted to provide information for the service. The Post Office acts only as a carrier and exercises minimum control over the information which is disseminated by the service.

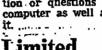
In addition to the general service. Prestel also allows for closed groups to use the system to store information available only to a limited number of

Those organisation which do

not wish to use Prestel can establish their own computer for a private viewdata service. Several large companies are commissioning now systems from manufacturers, including the General Electric Company and Philips. The main use at present is for the display of internal company informa-

At present the information stored in the Prestel computers spans just about everything that could he published in newspapers, magazines or booklats. It also includes a substantial electronic encyclopaedia. Weather reports, timetables, theatre and entertainment guides, husiness statistics and sporting information are incinded in the general information services. Some organisa-tions like the discount warehouses have already started to use the new medium for advertising, and some ingenious entertainments, including quizzes and games, are also provided.

However, it is the interactive capability of the system that radically distinguishes it from all forms of conventional publishing and whose potentialities have yet to be exploited. The fact that the user is connection directly to a computer means that he is able to seed information or questions back to the



Limited

. This possibility is limited by the fact that most users will have only a simple numerical key pad and also by the fact that the transmission rate from user to computer is rather slow. However, the system is quite adequate to allow a user to answer questions from the compnter hy pressing huttons to of standard television sets. The signify "yes" or "non." He service is therefore entering a signify "yes" or "non." He service is therefore entering a can also use the keypad to control a pointer on the screen, or which its popularity will be rehe can type figures to fill a lated to the cheapness of the designated space in the frame, special microelectronic com-This last facility enables him to ponents needed, which in turn tell the computer personal will depend directly on the details about, for example, a popularity of the service. The house price, to enable a pro- price of information is also, house price, to enable a programme to calculate his mortgage. He will also he shie to

stage of development. The question which is now exercis-ing the Post Office and the television set manufacturers is: How many people will want to use the service, and what will they mostly use it for?

. The present consensus appears to be that Prestel will appeal mainly to business usars in the first few years but that its appeal will gradually widen to the general public. However, the speed with which this happens is all important, hecause the essential feature of Prestel compared with other computer information systems is cheapness based on mass production clearly related to the number of

type in his credit card number from its design phase in the to make a direct purchase in response to a Prestel edvertisement.

All these facilities already lisers, information system. It is therefore very important for the Post

the shortest possible time.

The Post Office Prestel service went into operation earler this year. One of

its uses—as shown here—will be to help the deaf to keep themselves informed

up a network of identical Prestel computers, is also keenly interested in the possithat the systemstimulate greater use of the telephone network.

However, by the time Prestel is accepted as a normal item of home equipment, it will probably have changed considerably. In principle the adaption of a television set to display data convarts it from being a piece of home entertainment into a computer terminal. As the cost of microelec-

tronics and other computer components continues to fall, it will be possible to adapt the television set to become first an "Intelligent terminal" an. (with its own computing power and memory) and then a com-puter in its own right. The present trend of costs makes it likely that Prestel sets with full computing abilities will become commonpless consumer goods within the next five to

exist or are in an advanced Office, the set makers and the That means in practice that stage of development. The providers of information to the television screen would be question which is now exercise achieve the widest coverage in linked to a low cost electric The Post Office, which is pre-memory with a microcomputer pared to spend some £100m somewhere in the middle. The over the next five-years setting whole mini-system will be controlled by a full typewriter style keyboard, and it will he able to communicate with the Prestel computers and switch other domestic systems through the

telephone network.

The possible implications of such a system require a great leap of the imagination to comprehend. Electronic mail. electronic newspapers and electronic shopping are among the more obvious possibilities. More fundamentally, a powerful information network of this sort could in theory enable many people to do much of their work at bome rather than going into the office. Whether this actually happens will depend on a range of social factors and on the price of transport. However, it is not far fetched to envisage that viewdata networks will help to bring about some fundamenta! changes in the organisation co society.

Max Wilkinse

Satellites CONTINUED FROM PREVIOUS PAGE

systems rather in the same way Communications Satellite Corthat Europe is developing its poration (Comsat) itself, which commercial users in the U.S. Dr. Charyk said the new ser-Such systems have been under study for some time in the Middle East, South-East Asia and parts of Africa and South America. The various consortia of companies involved in communications and other satellite developments are especially interested in developing these packages for the countries in the Third World, and some substantial husiness seems likely to be genarated in this way through the 1980s. Such groups include the MESH consortium, comprising Engins Matra of France, Erno from West Germany, SAAB-Scania of Sweden, British Aerospace's Dynamics Group, Aeritalia from Instrumentation of tele-conference facilities and tele-conference facilities Italy, INTA from Spain and Fokker-VFW from Holland, TRW Systems of the U.S. is associated with companies in the

MESH group.

But the higgest "regional satellite system" user of all is the most significant being the

not only manages the intelsat system on behalf of tha countries that own that system, but also engages in other communications satellite activities. One of these is the Satellite Business Systems (SBS) group, set up hy Comsat General Corporation (a wholly owned subsidiary of Communications Satellite Corporation), IBM and Aetna Life and Casualty. Three satellites are being built, hy Hughes Aircraft, with the first launch planned for mid-1980. The aim is to provide a domestic

Western Union Telegraph Company already has two Wester communications satellites in orbit over the U.S. launched in April, satellite system user of all is still the U.S., where various 1974, and Westar-2 in October, organisations have been extensively engaged in communications satellites for some time—capacity for 600 two-way telescent phone calls, colour TV or high-

studying the development of a system that will provide sub-scription TV service directly to millions of U.S. homes via satellites. The satellite TV service would offer several programme channels directly to small antennae on the roofs of subscribers' homes. Subscribers would pay a monthly charge that would cover the total service, including the use and maintenance of the antennae. This monthly charge could be less than many families now pay

Potential

According to Dr. Joseph V. Charyk, president and chief executive of Comsat, the technology for such a system exists "and we are investigating the business potential for satelliteto-home TV services." This type of service is already heing experimentally tested in Japan, while Canada and the U.S. have

for a single night out at the

commercial users in tha U.S.

For the future, the Communications Satellite Corporation has confirmed that it is Federal Communications Commission approved.

The new service, with its monthly subscription and no commercial advertising, would be different from and not a substitute for existing commercial TV networks and local TV stations. Comsat's own interest in this field, said Dr. Charyk, had heen spurred by technological developments in the satellite field, by the recent growth in the U.S. of Pay-TV, the continning energy crisis which limits travel, the strong sales of home videocassette. recorders, large screen TV sets and home com-

Comsat is pursuing discussions with other companies, because development of a satellite TV service into people's homes will require collabora-tion with a variety of programme producers, satellite and antennae manufacturers and servicing organisations.

Michael Donne

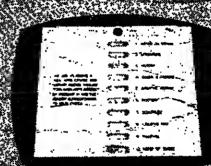


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Access the same programmes can be limited to individual subscribers, without need for access to the home. This is particularly suitable for Pay TV on a per-channel basis or brovate programmes can be provided to professionator specialist groups.

Pay TV is also available on a per-programme pasis, with facility for sential adjunctionated.

REDIFFUSION CABLE TV-VERSATILITY COMMUNICATIONS



Electronic IV Games

The system includes a selective feature which enables sobscribers to play plectionis**games** against a ceptral computer. If desired, participants can be grouped to play team

mobers may be elito : Software for Marchy services Last Police, Fire,

miance etc.

Community

Fig. Rectification cable
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Information provision and accordance European European Part Contractor Contractor Contractor Contractor

The Rediffusion Group of Companies are nearlifeable (Blevisor) communication systems. The criminal of Lethings are called as expectation systems. The criminal of Lethings are called as expectation as expectation of the planning and the restriction of the planning and the planning and the planning and planning are planning as the planning as the



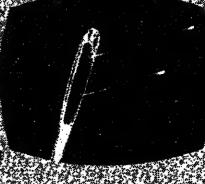


Figure: Optics

The Reciffusion wide-band system is sometic for fibre optics as well as waddional copper gable. In fact, we angelered transmission of relevision splints ever emigal fibre cables because of free very small denuates, optical fibres provide a transmission advantage in size eduction, which becomes igniticant ou cable systems that: have a high capacity requirement.

Red Krish & Engineering Lipited 197 Consideratie West, Kingston-Upon-Thames Surrevicte; 31:942:8900; Telex 929984



(empute

ViiI

Telettra's Presence in the world of **Telecommunications**

Telettra, a major Italian telecommunications manufacturer, was founded in 1946 and belongs since 1976 to the FIAT group. Telettra itself is at present the most important manufacturing company with private Italian capital in the field of telecommunications. Telettra systems have been installed in 50 countries in the 5 continents. In Italy the company has 7 factories, with a total staff of 4,800. Since the very beginning of its activity Telettra has been an electronics manufacturer and as such it has given a valuable contribution to the development of fully

The company's traditional policy of Research & Development, to which it devotes 15% of the turnover and 22% of its staff, has provided the technical know-how which at present supports the activity of five affiliated companies operating in Spain, Brazil, Argentina, Mexico and Norway. Most of the affiliated companies are run as joint-ventures with local capital share. The total staff of Telettra affiliated companies outside Italy is almost 2,000

electronic telecommunications systems, in the transmission.

remote control and telephone switching fields.

In 1978 the total Telettra turnover in the world reached 200 million U.S. dollars, 60% of which is represented by sales outside Italy. Telettra Italy alone has reached a sales figure of 132 million U.S. dollars, 41% of which in the export market. Telettra's main lines of activity are the following:

-fully electronic, local and international telephone exchanges; low capacity exchanges for dedicated networks.

-telephone multiplex systems both analogical (FDM) and digital

-radio relay systems (microwave and UHF), both analogical

-telecommunications systems for dedicated networks.

-remote control and supervisory systems.

-telegraph and data transmission systems.

-telecommunications systems for military networks (fixed and movable).

-turn-key engineering and installation services.

The company's range of activity has been recently widened through the acquisition of the majority share stock of Autophon Italiana S.p.A. of Rome, producer of mobile and low expecity radio systems and alarm systems. Telectra skill in designing manufacturing and installing telecommunications systems, together with the high quality and reliability of its equipment and an effective commercial organisation, has granted the company a remarkable success in both the home and the export markets, Telettra's presence in the export market dates back to 1954 when a telephone network on open-wire lines was installed in Turkey. The present position of Telettra In foreign markets has been achieved competing with the most qualified international companies, both through the traditional export sales and the diffusion of Telettra's own know-how to the affiliated companies abroad.

Some significant achievements are represented by the awarding to the Italian company of major projects such as: the 1,700 mile radio-link crossing Siberia (U.S.S.R.) between the lake Baikal and Amur River regions, the radio-link between Saudia Arabia and Sudan including a 194 nautical miles (3SSKm) single line-of-sight hop across the Red Sea, the microwave national network of Argentina (Radio Global project) extending from the Andes to the tropic and the "Tierra de Fuego",

A recent awarding by P.T.T. of Sudan, upon international tender on a turn-key basis, covers the first supply outside Italy of a fully electronic international telephone exchange of Italian design and manufacture.

Unions' positive attitude eases labour pro blems

TELECOMMUNICA T I O N S Post Office Engineering Union workers have been brought (POEU).

The effects of industrial action the past 12 months or so by a combination of strikes which have affected Post Office and longer being directly felt system,—invented in 1889 and day policymaking debate at its limitations of slow-despite its limitations of slow-day policymaking debate at its limitations of slow-day policymaking debate at its ness, inflexibility, high main-tecanic costs and telephone of profit between the disparity of noise, still the backbone of profit between the two business. have affected Post Office aervices and, less noticeably, redundancies as the telecommunications equipment manufacturing industry presses on with the modernisation sweeping the whole field.

The effects of the disputes workers are still being felt, 40 to 37½ hours—while not in particularly from the strikes involving computer and clerical staff, whose action has been appeared as 35-hours week are a staff. staff, whose action has halted the issue of all computer-pro-cessed telephone bills since

While for most subscribers. the effect during the dispute has been one of annoyance at their regular budgeting being upset and at the disruption the action caused to some computer-based telephone services such as the numbers of new subscribers not being listed with Directory Inquiries, the effects will obviously be principally felt when the Post Office puts out when the Post outer puts out six-monthly and then, very quickly afterwards, further three-monthly bills. The Post Office, worried at the difficulties such large bills might present to many subscribers, has been advertising to persuade custo-mers to use telephone saving

For the majority of the members of the two unions involved in the dispute, the main issue over which the action was taken was pay, though for officials in the unions, in the four other unions in Post Office telecommunications and in the Post Office a more important issue in some ways was the Corporation's attempt to bring ln what it terms as a pay "spine" for all 200,000 telecommunications workers.

The spine is designed to bring all unions in the business to a common settlement date, to allow the Corporation to begin a complex regrading exercise and to improve productivity. Some measure of agreement on the issue was reached with the unions, but the final fate of the

no longer being directly felt by the public, or by the business mmunity's operations, some of which were severely disrupted by the action.

For the POEU, though, the main achievement of the dispute-a reduction in the enant part of the union's response to the Post Office's planned introduction of new technology, particularly in the telephone exchanges, which some memhers of the union saw as a direct threat to their jobs.

The reduction in hours-still the most significant step within the trade union movement towards the TUC target of a 35bour week - is just one of the conditions listed by the POEU as the price of agreement to the Office's modernisation plans.

Modernisation, the central workers, has brought the group, particularly those working in private sector equipment manufacture, to the forefront in a different way: instead of im-

Plessey, for example, one of the Post Office's four major telephone equipment suppliers, has had to shape its workforce electromechanical switching Modernisation of Telecommuni- oool, which adopted a motion power levels must gradually

teoance costs and telephone ago, points to the disparity of noise, still the backbone of profit between the two busi-British exchanges — with electronic exchanges, and in par-service is labour intensive, with ticular System X, a modular a low demand for capital investsystem based on microelec- ment and in recent years a static continuous development and

improvement. In 1977 Plessey axed 1,800 jobs on Merseyside by closing factories at Speake and Kirkby, and followed that decision a year later by cutting 600 jobs at its main Edge Lane plant in Liverpool, publicly blaming the rednndancles on a fall in demand for the traditional Strowger system and the change to the less labour-intensive electronic equipment

Warning

This kind of effect of technological change stands as a grim warning to other telecommunications workers, and the response to modernisation is the one single issue that shapes the issue for telecommunications thinking of the unions in the

proving their conditions, some though fiercely opposed by the or hiving off the particularly workers have seen theirs collapse into losing their jobs. though fiercely opposed by the or hiving off the particularly profitable parts of the telecomof Post Office Workers, bas the munications business to the support of the two largest tele-communications unions, the ranks firmly against it, though POEU and the Society of Post for exactly the same reasons. Office Executives, on the

tronics and allowing virtually or declining volume of business, whereas the telecommunications service is capital intensive, with a £1bn ennual investment programme in technical advance-ment and an expanding volume. It argues with the Carter Committee's report in 1977 on the Post Office that "the present combined management has led

to over-centralisation, poor delegation and alow decision-taking." The POEU firmly believes that the Post Office's telecommunications business needs to respond quickly and positively to sub-scriber and market needs, and that telecommunications management needs to take a strategic view of the fast-moving development in the industry without the additional responsibility of a postal business with very different problems.

The Government's intention, for example, to separate the Postal and Telecommunications businesses of the Post Office's

Mr. Bryan Stanley, POEU

letter and telecommunications maupuwer monopolies, and any hiving-off with the threat that the next further job opportunities to Labour Government would be come. urged to re-nationalise any parts private sector without compensa-

He said: "We are absolutely determined to defend the Post Office's exclusive right in telecommunications because it provides the best possible service to the customer." He also said that if the telecommunications monopoly were undermined, the Post Office would be likely to have to increase its borrowing or put up its charges or reduce its programme of modernisation in order to try to offset the loss which would be invariably suffered by its business.

Such a pusitive approach to new technology might seem strange to those who have seen such implacable opposition as that, for example, of the print unions in the new newspaper production methods, but though the responses of the print umons and the POEU take different forms, they are both based on protecting the interests

only provide a basic telephone network whose rate of growth must eventually diminish as full penetration of the market is reached, or whether it should range of products and services, to fit in with technological grounds of new technology.

general secretary, made his covering the whole field of teleadvance and the Post Office's

The POEU, in a weighty statedecision to replace the Strowger ment on the whole subject, "The recent TUC conference at Black the union reasons that mancovering the whole field of tele-

opposing the break-up of the decline; if the latter, current assured, with the prospect of

Post Office estimates of the Post Office sold to the engineering manpower forcessts bear out the union's positive approach. The Corporation's forceast is that although the number of men in post will peak sometime this year, the decline over the next 10 years will only

be marginal. As a result, the union has concluded a new technology agreement with the Post Office, which in return for the union's willingness to co-operate with new tech-nology guarantees job security for the union's 120,000 members over the 10 year period of the Corporation's forward plauning.

The union has made it clear in its study on new technology. however, that jnb securily will only be one element of its price of agreement, logether with adequate training for the new systems, sufficient job satisfac-tion, improvements on grading. hours, productivity, leave and retirement benefits, as well as pay, and has ruled out a one-off package deal as it will need to respond to the progressive flow

of the unions' members.

The POEU has faced and answered the question of whether the Post Office telecommunications business should growing wearily accustomed to a basic telecommunications. seeing proposals for the introduction of new technology meetimplacable apposition, the positive, responsible attitude of the provide a new and expanding telecommunications unions to major changes in their condicovering the whole field of tele- linns and working practices communications. If the former, must be a heartening and

Philip Bassett

Search for new markets

it is a question of finding the game of chance.

WHO IS selling where, why and may have an entree to various 800 organisation whose holding mentary in digital switching. from Australia where its AXE how? Marketing strategy for countries because of national company is based in Holland. CIT-Alcatel has chosen to equipment has been chosen for

nelwork, summed up the situa-tion when he said: "In times when political situations change, one must be opportunistic. One has to be very well informed on all fronts."

Never before has market research played such an important part in getting contracts. Situations in some countries can company thought that its con- but is also carrying out market tract was a safe bet, can find itself out in the cold. It is easy to see why some

telecommunications companies do so well. Speak to the inter-national sales managers and mention a country. Immediately they will bave the facts and figures to hand of the country's situation, how many telephone lines it has and bow many more it requires. Without doubt the market place is becoming tougher all

the time, Most companies look to the Far East, Middle East. Africa and South America for their business. Markets in Europe

usually the territory of the home manufacturers and have the situation has intensified. Because of the introduction of less labour-intensive equipment

tions however, Finland being one. Finland has many tele-communications administrations for different areas. These are free to introduce whichever equipment they find suitable. In Holland, the Dutch PTT specified that it would use Specified that it would use Philips PRX equipment and L. M. Ericsson AXE equipment is although no AXE equipment is some people with a great deal of faith in the British System X.

The most recent and unusual exception to the home buying rule bas been Germany. Siemens has enjoyged a favourable position but the German Bundespost bas invited companies to make presentations of their equipment. It appears that the only stipulations are that the equipment is digital and that the company bas a German-based manu-

facturing subsidiary.
West Germany intends to have
a set up similar to that in Holland, with two of the three preferred manufacturers and suppliers of digital equipment. Philips is hoping that its new digital equipment will be chosen at least for preliminary

Markets outside Europe, for example those in Jepan, the U.S. and Canada, are becoming equally tough for the home manufacturers. So much so that many have expressed a desire to get into Europe. While it is highly unlikely that they will of main exchange equipment for using the backdoor route of licensing customers' agreements for apparatus and

Continental Telephone Cor-switching equipment.
oration of the U.S., recently At the moment the two poration of the U.S., recently acquired a stake in the Service companies are almost comple-

telecommunications has no logic; relationships, so often it is a CTC said that this move marked the company's initial entry into

The company has placed a bid with the Irish PTT for the updating and expansion of the Irish network. Northern Telecom is thought by some observers to be very well placed. The Japanese company NEC (Nippon Electric Company) is looking for European business. It too has placed a bid in Ireland analysis with a view to introducing its PABXs in Europe.

It is doubtful whether contracts such as the Saudi Arabian one will occur again and that is why inroads have to be made wherever possible, even if it is only with subscribers' apparatus. In an effort to get contracts and be competitive, telecommunications companies are offering various deals depending on the local requirements.

Simple

Mr. Sharpley says that they will most certainly be able to offer local production and training both in the UK and in the country concerned. Manufac-ture, he claims, is relatively simple and for developing countries, manual methods could be

less labour-intensive and the resulting redundancies that have affected most of Europe, PTTs and telecommunications administrations is in being able to offer a total network with exchanges that were not developed in isolation but are part of a family developed with collaborative affort.

"Finance is of crucial importance," be says. "Govern-ment aid, loan interest loans are all a national situation." ever, be feels that the initia-tives have to come from industry. "If support is needed we must ask for it."

arrangements bave already been made to BTS by several British merchant banks

In France CIT-Alcatel is getting quite a reputation for its ss in the telecommunications market. In 1972 the company negotiated a deal with Poland which involved local production. Next year sees the stert of production in Syria by the Syrian-owned company. Syrcotel.

The same man, Yvon Ferrette, who is now director-general of Syrcotel, was also involved in getting local production underway in Poland. CIT-Alcatel is also quite happy to let those countries with local production of its digital ELO system export The French bave M. Norbert

Segard, Secretary of State for Posts and Telecommunications, as their international diplomat. When it is considered necessary be will visit a country with a have much success in the area team of PTT officials to try to persuade that country to buy the public networks, some are French products. This does not necessarily mean pushing CIT-Alcatel equipment as there is also Thomson-CSF in the market with its digital range of MT

exchanges and Thumson has has a manufacturing base. How-

cannot be expected to last since have been lower).

both companies appear to be
It is understood that the both companies appear to be committed to developing a full range of digital switching equip-

This is another example which Mr. Sharpley draws on to show BTS's advantage. As he points out, having three cnmpanles working with the British Post Office means that a united effort can be made which can lberefore receive unified sup-

Philips' claim to fame is that its system has recently been extended in Holland to 1m lines. The company feels that with this many lines in service for one PTT, the system is effectively proving itself. The company also has the advantage of being a member of the consortium that won the Sandi Arabian contract. While this is all very com-

forting, Philips. accepts that even with the demanding schedules for Saudi Arabia, it still has to look for further business. It is corrently turning Its eyes to Malaysia where a decision is expected on public network expansion before the

end of the year.

Ericsson also has a stake in the Saudi Arabian contract but was recently disappointed in New Zealand when Japanese equipment was chosen for a long-term contract.

Ericsson was hoping to export

CIT-Alcatel has chosen to equipment has been chosen for develop the lower ranges of the network and where it also initiative resis on a special conference in November of the largest and most influential union in the telecommunications side of the Corporation, the initiative resis on a special conference in November of the largest and most influential union in the telecommunications side of the Corporation, the initiative resis on a special conference in November of the largest and most influential moving fast to offer a deal that communications Systems) the communications Systems) the communications side of the Corporation, the initiative resis on a special it is a question of finding the Mr. John Sharpley, managing director of BTS (British Televolume and its communications in the company similal entry into exchanges and Thamson has has a manufacturing base. However, the Japanese price was too director of BTS (British Televolume). Northern Telecom, has also exchanges although its products low even with the additional communications will at least match the competition. While some companies X, the British digital telephone actively engaged in doing so in the relative form of BTS (British Televolume and director of BTS (Bri

Japanese came to an agreement whereby they agreed to take an increased level of agricultural products from New Zealand. Naturally, companies operating within the EEC would not have

been able to offer such a deal. Despite this, bowever, Mr. Paul Henson, chairman and chief executive officer of United Telecommunications. America's third largest telephone company, urges caution.

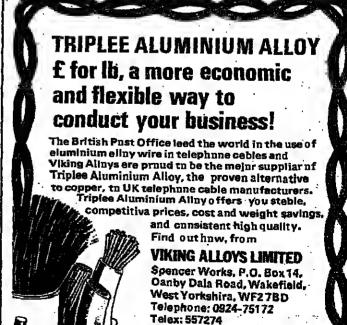
He claims that the Japanese can sometimes underbid for the main part of a contract by as much as 20 per cent. If, however, there are additional equipments to be placed at a later, date, these could prove propor-

tionately more expensive.

Sonth America is an area where many companies throughout the world are looking and is not a requirement. Some of the countries in

South America are fairly small and could not support a local industry since there simply would not be enough equipment required to keep the plant in husiness. In these cases, and for those who can remember bow, its a question of going back to the old style contracts iust a straight sale.

Denise Clark Electronics Weekly



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AXE: the best digital switching investment for telephone administrations?

Here are 20 considered opinions.

Argentina

One digital exchange, serving 7000 subscribers, was ordered July 1979. Cut over 1981.

Australia

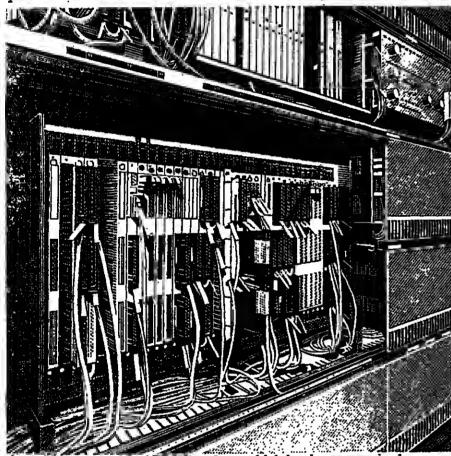
A system choice for the modernization and extension of the Australian telephone network. On the 13th September 1977 the Australian Government announced that L M Ericsson would be awarded the contract. A first exchange with a capacity of 4000 lines has been ordered. Future deliveries to be produced locally. About 1.5 million lines will be installed during the 80's.

Bahrain

A digital transit exchange with a capacity of 6000 lines was ordered in February 1979. Cut over in 1981.

Brazil

In 1976 Telebras issued a tender concerning a future analogue switching system. In February 1979 AXE was one of two systems chosen by Telebras for the future development of the telephone network in Brazil. Local production.



A special computer (the APZ 210) and a new high-level programming language were designed to meet the requirements of the AXE software package. As a result of this unorthodox approach, AXE software meets the needs of telephony staff, rather than computer specialists.

Colombia

After keen competition in an international tender 10 AXE digital exchanges (9 local and 1 transit) were ordered in January 1979. Somewhat later another local exchange was added. 100,000 subscribers and 7,168 trunks will be served. First exchange to be cut over in 1980.

Denmark

First ordered AXE October 1977. In total to date, three digital transit exchanges for 24,600 trunks and one digital exchange for 10,000 mobile subscribers on order. First exchange to be cut over in 1980.

Finland

First AXE exchange ordered in March 1975. In service: one local exchange for 4000 subscribers and one transit exchange for 480 trunks. 19,000 lines on order for extensions. The local exchange was cut over in leptember 1977 and the transit exchange in April 1978.

rance

In the 13th of May 1976, after an international tender for inalogue exchanges, the French PTT announced that IXE had been selected as one of two systems. The first exchange, with an initial capacity of 12,900 lines, was nanded over on the 28th June 1979. On order: additional 10 local exchanges serving 375,600 subscribers. Local production.

Italy

The first AXE exchange with a capacity of 960 lines was handed over in December 1978. On order: 3 digital transit exchanges with a total multiple capacity of 11,040 inlets.

Kuwait

Three digital exchanges for 30,000 subscribers were ordered in June 1977 after an international tender. Another tender resulted in an order for an additional 40,000 subscribers. Recently, extension for 40,000 subscribers have been ordered which brings the total up to 110,000 subscribers.

Madagascar

One local exchange, serving 20,000 subscribers, was ordered in 1978.

Mexico

Contract signed March 1979. On order: digital AXE equipment for 25,500 subscribers. Cut over 1980.

Netherlands

International tender concerning a system choice. Late 1977 it was announced that PTT had chosen AXE.

To date, orders have been placed for 7 local exchanges with a capacity of 18,944 subscribers. Originally the decision was for analogue equipment but has recently been changed to digital. First exchange will be cut over 1980. Three districts in the Netherlands, Rotterdam, Breda and Goes will be served by AXE.

Norway

First order in September 1978: 2 digital exchanges for mobile subscribers with a total capacity of 25,000 lines. The exchange in Oslo will start operation in 1981 and the exchange in Bergen in 1982.

Panama

First AXE ordered in February 1978. On order: three digital local exchanges with a total capacity of 10,000 lines. First exchange will be cut over in 1980.



Overall long-term economy was the main objective for the designers of AXE.

The language designed by Ericsson for man-machine communication is a good example. It has proved so effective that it is now accepted as an international standard.

Saudi Arabia

A tender was issued in 1977 regarding the largest single contract in the history of telecommunications: an SPC system choice for the extension of the Saudi Arabia network. On the 25th of January 1978 a consortium consisting of L M Ericsson, Philips and Bell Canada was awarded the contract.

In addition to upgrading of existing Crossbar exchanges to Stored Program Control, L M Ericsson will deliver 21 AXE digital exchanges for 173,000 subscribers and 52,800 trunks.

The first five AXE exchanges were cut over right on schedule on 13th of December 1978. 6 months later 5 local exchanges (68,000 lines) and 7 transit exchanges (multi. cap. 33,120) were in service. Additional equipment for 105,000 subscribers and 19,680 trunks is on order.

Spain

The first AXE was ordered in December 1977. 3 digital local exchanges for 30,000 subscribers are on order. The first exchange will be handed over in 1980.

Sweden

The first exchange was cut over on the 1st of March 1977. On order: 10 digital local exchanges for 240,000 subscribers and 2 digital exchanges for mobile subscribers.

Venezuela

One local AXE exchange serving 5000 subscribers was ordered in May 1978. This exchange will be cut over in 1979.

Yugoslavia

First AXE ordered in January 1979. On order: 4 local exchanges for 30,000 subscribers and 1 transit exchange with a multiple capacity of 4320 inlets. Local production.



AXE was designed from the beginning to be completely modular in both hardware and software. This means that functions can be added, deleted or modified with minimum impact on other functions.

Today, the world's telephone administrations are faced with the need to make a rapid transition from analogue to digital telephony. The key investment decision is the choice of the telephone exchange system, since the exchange, once installed, has an economic life of many years. The exchange contains the intelligence of the network, and defines the possibilities for flexible long term development.

The Ericsson AXE digital switching system is considered exceptional in its ability to provide low long-term operating costs and outstanding versatility. By August 1979, just 30 months after its introduction, it has been chosen by 20 administrations.

Success like this is vital to any digital switching system. It means that AXE will be continuously enriched and developed, making it even more attractive to telephone administrations all over the world.

These facts contribute to making AXE a sound long-term investment.

The Ericsson Group



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The remainder of the survey is devoted to profiles of some of the leading

companies in the field-from Japan, North America and Europe. The articles examine the companies' fortunes over recent years and outline the projects they are working on in this intensely competitive field. This section has been written by John Lloyd, Max Wilkinson and Elaine Williams.

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Change of philosophy for American giant

and Telegraph Company— AT&T, or Ma Bell to most Americans—can be described at length in superlatives only. One of the world's biggest companies, with a profit last year (\$5.3bn) bigger than most com-panies' turnover, sales (\$18bn order to accommodate these last year) much more than most countries' GDP, nearly 1m emthe tune of \$13.7bn: these main statistics are enough to show that AT&T is enormous. dominating the American telecommunications manufacturing and in the competitive arena in which we now operate." more especially service scenes and thus an important element in the world picture, as well.

The giant, however, has its problems, and in the past year, as its chairman for eight years John deButts retired to make way for Charles L. Brown, the company faces a number of battles to keep its massive hulk straddling across every area of U.S. communications. Some of these battles appear already to have heen won, after a period in which it seemed they could go either way: but the war is not over, and it is clear that Bell will at the end—if there not, most of Mr. deButts' reign ever is a clear end—he a little at the top of the monster less powerful than it was at its corporation was dedicated to

On its operating side, Bellwhich serves 85 per cent of all Americans—bas changed its philosophy as it ploughs into its second century of existence.
"If universality of service was "If universality of service was granting it monopolies over the hallmark of our first 100 service of a kind similar to that years," a company statement given to most European PTTs, issued last year read, "diversity was negotiated by the

THE AMERICAN Telephone of service will be the thrust of our second century. technology provides the capability to supply diverse services. Certainly the needs and expectations of residence and perceived changes, the company has reorganised its operating ployees, with a construction and market activities into three programme last year financed to major areas—business, residence and network, each with a senior vice-president in charge. This, says the company, "will enable us to perform more effectively

> The slight note of regret that may be detected in that last statement is perhaps due to the residual reluctance felt by many in the company over abandoning its role as the country's inquestioned provider of the telephone service—a private eoterprise post office without the post— and taking up the posture of competing with smaller, but aggressive, competitors (not much smaller - IBM and ITT are two of the major challengers). Reluctance or not, most of Mr. deButts' reign preparing it for the change from service- to competition-oriented company, a strategy which it falls to Brown to implement

Bell's

could sell soap could sell any- between AT&T and IBM, the thing. The team is headed by computer manufacturer which company's first chairman, Mr. Theodore Vail, 70 years ago. Mr. Vail not only welcomed the Mr. Archibald McGill, a former IBM marketing vice president, who has developed a system monopoly, he made it an efficient one. Mr. deButts, who agreed that monopoly was a good thing, nevertheless saw that the company could not retain it. He thus set in train approach to marketing somewhat similar to that practised by his former employer: that is, rather than sell telephones what has been described as the higgest corporate reorganisation in history." That to customers, Bell now moves in to assess communications needs, then suggests a package. Symptomatic of the change was programme will mean that over a third of the Bell system's the scrapping of the old Bell siogan. "We hear you" in 985,000-strong workforce will change their jobs in some way (even if only its title); that Bell will move into computing favour of the more persuasive

"the system is the solution."
This shift has meant that
Western Electric, the company's manufacturing subsidiary, has had to change from simple mass production of standard products to new ranges of styled phones, terminals, PABXs and the like. It is a hard task, akin to that faced by a battlecruiser fighting off attacks from aircraft, submarines and smaller sur-In its anxiety to improve its face craft all at the same time: marketing, a skill with which it for while few companies can match Bell's range, many can beat il in depth in a particular Bell first went into the market-place itself, hiring salesmen market segment.

Most people in and around compelition for the entire Bell the industry agree, however, system We're on a collision obvious belief that those who that the major battle will be course."

Other craft are hobbing along computer manufacturer which in their swell, too, and the collisium could well he a mullicommands 60 per cent of the ple one. ITT, no pygmy, recently received FCC permisworld market. While smaller than Bell, with exactly half its sion to operate a long-distance sales and profit, and less than network linking 11 U.S. cities while two much smaller comhalf its employees last year. IBM is nevertheless more propanies, MCI Communications ductive than Bell, more experiand Southern Pacific Communtenced in marketing and arguably better at innovation. The competition will come as both cations, have also received permission to run services. As tho computer makers and teleant, satellite services come in maker/operators inereasingly into service, Bell could find it hard to justify a creasingly find themselves marketing similar products monopoly. IBM itself has its SBS subsidiary poised to offer voice and data links from next Bell's Teletype subsidiary, for example, markets computer terminals, increasingly successyear and could attract a largo fully (after years of languishing). Mr. John LeGates, president of the Centre for Informa-

The story of the contempothe story of contemporary U.S. tion Policy Research, was quoted recently (Business Week, November 6, 1978) as telecommunications. we have seen is changing; so saving that "what's really is Bell, partly because it must, noing on is a war between two partly because it has anticipadifferent kinds of industries for ted the market signals. By the mid-1980s, it should be clearer a hrand new market," while the vice-president in charge of what these changes Teletype said in the same issue brought in their train-better, that IRM was "the bigrest

Belief

as a matter of necessity, since

swatches and terminals are now integrally linked to computers; that the workforce ceases to

regard its job as purely as a

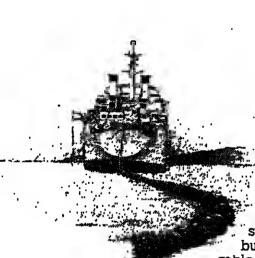
service, but rather as a sales pitch in a marketplace.

had not previously hothered,

from 1BM, Proctor and Gamble

and Colgate-Palmolive, in the

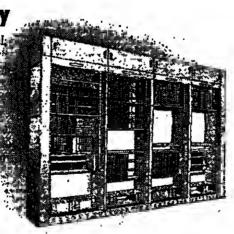
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submarine cables, a new succ PABX range and the experience of Europe's . . . biggest space communications manufacturer.



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GENERAL TELEPHONE and the Egyptian contract and Communications Regulatory On the first of these, the comElectropics is number two and clearly sees its place in the Communications (which would reis trying harder. As the long- world as much more export- place the Federal Communiway second American telephone of the past cations Commission) both
and telegraph company in the Mr. Robert Gressens, made adequate substantive direction office-orientated counterpart in

The past of these, the company has innovated in the past cations Communication communication centres as an
and telegraph company in the first of these, the company has innovated in the past
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communication of the first U.S. market, both as operators president of the company's and specific procedures to their domestic "phone marts," and as manufacturers, GTE communications group in 1976 assure that the interests of the as places where businessmen suffers from time to time from and charged with arresting the public as a whole are represented in profits, organised his sented . . . at least the FCC selection of husiness systems. plex. Then it remembers it is, division on an after all, very large compared to most telecommunications and electronics companies who are difficult to crack.

indeed it has to: its fortuoes, now apparently on the mend, have been mixed in recent years. The company serves around 8 per cent of American telephone for us to address, but we hope subscribers (Bell serves 85 per cent), which, as its chief will be sold more freely between scientist Dr. Lee Davenport states and we would be able likes to remind UK guests, makes to serve the whole European it as large a telephone operating market." company as the Britisb Post Office. It covers a wide geographical area — mucb wider than 8 per cent of the country since many of its operating sub-sidiaries cover large rural tracts of Ulinois, Keotucky, Michigao, Ohio, Pennsylvania and elsewhere. In all, it has 15 large and three small U.S. operating com-

panies, together with three more abroad — in Quebec and British

Columbia in Canada and in the

Dominican Republic.

Its maoufacturing arm, Automatic Electric — bearing the same relation to the company as Western Electric does to Bell has plants throughout the U.S., and markets not only to GTE, but to other telephone companies iocludiog Bell — as well. The company has some 92 manufacturing plants (not all for telecommunications) in 24 states, and more than 50 throughout the world. Overseas, it has manufacturing plants within its communications products group in Argentina, Belgium, Brazil, Canada (19 plants in all), Italy, Mexico, Spain and West Germany. Its most significant telecommunications presence in Europe is in Italy, where its subsidiary CTE Telecomunicazioni (with three plants) is one of the three large multinational subsidiaries (with ITT and Ericeson) and has around 14 per cent of the Italian market.

Although we are not concerned with it here, it should he noted that GTE, unlike Bell, is a general electronics as well as a telephone company, marketing consumer products (TVs are the main products), lighting equipment and specialist metals.

The company has been hit hard by the sag in the U.S. TV market in the mid-1970s, coupled with Japanese and other Far Eastern competition: it has now re-

In the overseas markets, the company has been concerned with a contract in Iran, worth with a contract in Iran, worth more than \$500m, which is described elsewhere in the Survey. At the time of writing, considerable doubt still surrounds the progress of the contract, suspended during the revolution.

The company is also part of the U.S. consortium hidding for

international hasis and regards the world as his oyster, if one increasingly

not AT and T, and perks up. In an interview earlier this But It still tries harder, 25 year, Mr. Gressens said that he hoped that the company would be able to attack the European market more forcefully than in the past: "It is a difficult market that in the future equipment

Attitudes

In the less advanced markets—such as Egypt—Mr. Gressens has been concerned to change U.S. Government attitudes on forward financing to achieve recognition that U.S. companies are now competing with countries as well as other companies.

At home, the company has been much concerned with the regulatory wind sweeping through the communications power corridors, and has taken up a position somewbat akin to Bell's—one of cautious adapta-tion to the new mood, with a strong rearguard action to attempt to prevent what it feels to be an excessively competitive spirit, which might be damaging to the public it serves.

In a largely critical review of proposed new legislation on communications, GTE's chairman, Mr. Theodore Brophy, last year told the Senate subcommittee on communications that the Communications Bill then being considered was too vague in its wording and strayed from the concept of public service, which bad been central to the 1934 Communications Act. most significant and pervasive failing of the Bill is its failure to set forth for the proposed

here there is no Congressional standard having express

or judicially construed meaning freely. without these guides, how could any reviewing court find any Congressional limits on CRC power? How can industry develop its plans with any assurance as to the future?" The concern manifest here is a reflection of the position in which GTE and Bell find them-

selves: both comfortable in the role of providers of a public interest in the progress of Com-service, with their monopolies puter Enquiry II now being broadly preserved in the areas in which they operate: both believing that their way is the most efficient and cost effective: allow it to develop more adven-both meeting a strong barrage turous equipment. If the FCC scepticism, coupled with strong pressure from other large companies - ITT, RCA, even IBM - to move into their areas. Hence the two-pronged defence: gearing up for com-petition, and lobbying hard in Washington against the deregulators.

had to act within the statutory At the same time, in this area standard of "public interest, it finds itself up against poli-convenience and necessity tical problems once more, this tical problems once more, this time regulations which stop it competing, as it would see it,

> The problem is the familiar one of the convergence of compnters and telecommunications.
> Under FCC rules, companies
> marketing data processing
> equipment cannot market a system whose computer handles as well as telecommunications. The company thus takes a keen conducted by the FCC, and hopes its recommendations will modify existing legislation to turous equipment. If the FCC does decide to take this line. GTE and companies will of course, meet the computer com-panies coming into the market from the other end — but it

appears reconciled to that as the

price of competitivity.

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THOMSON-CSF/CIT-ALCATEL

Crucial tests still to come

ONE OF THE outstanding system of exchanges. This new substantial domestic ordering Certainly CIT-Alcatel is the examples of the success of conglomerate was to counter programme of which Thomson more experienced of the two three years.

And yet perhaps it is pre-mature to talk of success because, in spite of the rapid and decisive reorganisation which took place in 1976, the motives of its own. As Mr. with a contract for the setting state of the E10B with development of new products Edouard Gulgonis, Director of up of a factory to produce 1m followed by the E10B with which resulted and the market Thomson, said: "We came to lines a year of MT exchanges double the capacity. By the end the conclusion that for a coming effort which is now being the conclusion that for a coming this, and some other successes, 722,000 lines of its E10 systems this, and some other successes, 722,000 lines of its E10 systems mounted, the crucial test for French ambition is yet to come. And so are some of the major stresses to which the industry will be subjected.

The test, of course, is whether the industry can achieve its long-term ambition of increasing exports to perhaps 30 per cent of production on the hasis of its new computer-controlled products. And the major stresses will bave to be faced in the mid-1980s if and when the current boom of domestic orders starts to peter out.

will start as the current fiveyear plan runs out in 1980. This expenditure plan, and trom a salesmanship, as happened in plan, announced in 1976, called company point of view, Thomfor FFT104.4bn to be spent. By son wanted to reduce its CIT-Alcatel staged a ceremony were to be installed in addition to the 7m in existence in 1975. By 1980, it was planned, telephones should he available to two-thirds of the population instead of to a quarter.

ordering programme, which has reached more than 2m lines a year, the French Government AXE exchanges from Ericsson, was able to effect a re-organisa- in addition, it has now tion of the manufacturing developed its own MT-20 transit industry with a breathtaking display of authority. It obliged Internallonal Telephone and are fully digital computer con- Alcatel to gain a foothold in heen an advantage to have heen trolled systems. Eventually, Egypt so that it can obtain some the MT system will supersede of the billions of dollars of those coming hehind will overtake the other two exchanges which would he needed take the E10 with different types

Thomson, which had no pre-

French Government intervention balance the established French into industrial affairs is the telecommunications equipment development of its-telecommuni- manufacturer, CIT-Alcatel, subcutions companies over the past sidiary of the giant Compagnie Général d'Electricité.

Thomson CSF may have

needed some pushing from the equipment. Government to take on this com-

or its new computer-controlled prospect that telephone switchor oducts. And the major stresses will bave to be faced in the nid-1980s if and when the current boom of domestic orders that telephone switchorders from the closer to its own main activities in electronics. From the husiness point of view, there was the obvious incentive of Indeed, a period of uncertainty will start as the current fiveorders from a very large public salesmanship, as happened in expenditure plan, and from the companies are receiving very substantial support in export markets from the Government authority. Ministerial support or authority. Ministerial support or authority. Ministerial support or authority. Ministerial support or some competitors. L. M. Ericsorders from a very large public salesmanship, as happened in export or salesmanship, as happened in the domestic rival, CIT-Alcatel Both ing.

Although that sounds, and is, impressive, it is of course a number of substantial support in export authority. Ministerial support or some competitors. L. M. Ericsorders from a very large public salesmanship, as happened in export authority. Ministerial support or some competitors. L. M. Ericsorders from a very large public salesmanship, as happened in export authority. Ministerial support or some competitors. L. M. Ericsorders from a very large public salesmanship, as happened in export and from a substantial support or export and from the telephone authority. Ministerial support or some competitors. L. M. Ericsorders from a very large public salesmanship, as happened in export and from a support or some competitors. L. M. Ericsorders from the domestic rival, CIT-Alcatel Both in domestic rival, CIT-Alcatel Both ing to support in export in export in export in export in export i prospect that telephone switch- some extent against its main will have accounted for 1.2m 1980, 8m new telephone lines dependence on exports which in Alexandria to celebrate the then accounted for 60 per cent establishment of one of its E10 of its turnover.

> As a result of the forced Téléphonique, as well as the scriber exchange, both of which

In addition to the problem over a new all-French, all-digital cal exchanges. In spite of the avoid the problem.

to make the new types of

Earlier this year, Thomson depended upon being in the telephone business," though he added that the decision was taken "with much reflection."

Lus, and some other successes. Thomson is still a long way from achieving its ambition of selling 30 per cent of its production of exchange equipment in the export markets.

On the technological front, against the foreign telecom-Thomson was influenced by the munications companies, but to all-digital exchanges.

The telephone authority was fitted with either. marriage, Thomson has taken also involved in this exercise wo-thirds of the population over manufacture of the both in giving support and matriage, Thomson has taken both in giving support and over manufacture of the both in giving support and Metaconta computer-controlled advice to the Egyptians and in Metaconta computer-controlled advice to the Egyptians and in However, it is clear that CIT-ordering programme, which has by ITT's subsidiary, Le Materiel exchange, which was flown out Alcatel, which boasts exports to at short notice as a demonstration model to impress the Egyptians.

The expensive combined exchange and the MT25 sub- political and marketing effort is part of an attempt by CIT-

vlous experience in the public of integrating two different comtolephone switching market, had panies and developing a new support were the two companies the formidable task of welding advanced system, Thomson has to be in head-on clash for a course CIT-Alcatel will also be these former rivals together and taken on the familiar problem major foreign order is not yet aiming to harness new technoloof creating from the technology of having to run down productions. Most probably discreet gies to improve its product and the engineers which it took tion of the old electro-mechanic methods would be found to

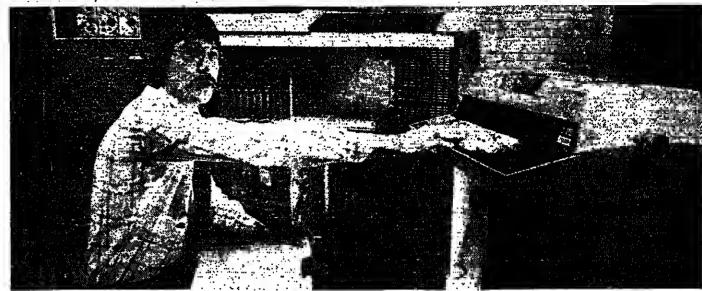
programme of which Thomson more experienced of the two bas a 42 per cent share, a large companies in the development slice of exports will also be of digital telephony. The first necessary to help amortise the prototype of its E10 system was heavy development costs and produced as long ago as 1970 the capital investment needed and production on an industrial scale started in 1973-74. scale started in 1973-74. By 1974, the company had started to manufacture its E10A exchange mitment, but it also had strong scored an important success with a capacity of 15,000 submotives of its own. As Mr. with a contract for the setting scribers per exchange. This was Edouard Gulgonis, Director of up of a factory to produce 1m followed by the E10B with

> were in service, of which 600,000 were in France and 13 exchanges were abroad. Indeed, CIT-Alcatel estimates in the export markets.
>
> To achieve export sales it will out of a total of 2m lines of have to compete not only against the foreign telecommultiplex) local exchanges inmunications companies, but to some extent its ratio will have accounted for 12m.

> > Although that sounds, and is, husiness of another U.S. commpressive, it is of course a pany Western Electric more after selective statistic, and than 50 years ago. between space division and time division (analogue or digital) switching is not of great significance in its system, since it is modular in nature and can he than £2hn.

12 countries, has established a very significant lead over at least some of its European competitors.

The question remains whether CIT-Alcatel wil find it to have been an advantage to have been French sunsidiaries to Thomson are still produced under to modernise the Egyptian of system based on the very son-CSF, subsidiary of Thomson are still produced under to modernise the Egyptian of system based on the very rapid advance of component Exactly how the French technology. Clearly, the systems



An ITT 6100ADX message switching system undergoing final tests. The system is used to send and receive typed information between locations any distance apart.

Concern with identity

Telephone and Telegraph Corporation's business bas lain outside its native country ever sidered first and foremost a since it took over the intermal telecompunications at the compunications of another IT is unustable to the companies. It wants to be considered first and foremost a taken over by the French-owned British companies of another IT is unustable to the constant telecompunications. The intermal is the constant telecompunications of another IT is the Dort Office. MOST OF the U.S. International

tronics husiness remains the company's single largest busi-hoped, win export markets), ness-with sales in 1978 of more ITT decided to sell off a

for about 40 per cent of the company's activities. In 1977 income from this sector rose 17, per. cent in 1977 in spite of monetary restraints on some to incorporate new technology.

ITT has a very close relationship with its subsidiaries around the world but each subsidiary In

herently national in character. well-established companies such as Standard Electrik Lorenz in West Germany, founded in the 19th century Standard Tele-phone and Cables in Britain,

UK is the Post Office.

mechanical systems and, it is minority 15 per cent of STC to Telecommunications accounts be taken up by British share-

Concern

search and development costs, foreign-owned company should and restructuring of its factories he involved so elecaled to incorporate new technology. Plessey and GEC had often Post Office's plans.

At the time of the shares sale, in June this year, ITT stated: "ITT believes that, where the telecommunications field is practicable, it is desirable for given considerable autonomy in its major telecommunications its activity, and each is insubsidiaries outside the U.S. erently national in character. serving predominantly local These subsidiaries include markets to have a degree of local ownership."

19th century. Standard Telephone and Cables in Britain, However, when the French into Network 2000. This is FIT's
Standard Radio and Telefon in Government carried out its concept of how all types of
Sweden and Standard Electrica reorganisation—or rationalisainformation such as speech, comtion-of its telecommunications puter data, electronic funds

control.

Today, despite interests outside the telecommunications industry such as the accordance of the telecommunications in the telecommunication in the telecommunications in the telecommunication in industry such as the ownership (the telecommunications equipmeasure of control over the of the Sheraton hotels, ITT's ment which will replace the activities of multi-national comtelecommunications and electro-country's outmoded electro-panies.

In recent years ITT has been trying to lessen its dependence on its overseas subsidiaries. In the telecommunications field it gained an Important foothold in the U.S. home market when, in January, the Federal Communications Commission gave the go-ahead for the company to set up a long-distance communications network linking business customers in 11 major cities including New York. Boston, Los Angeles and Atlanta.

This challenges supremacy of American Telephone and Telegraph which runs the giant Bell telephone system in the U.S.

TTT is one of the leaders ln telecommunications It already had adopted the systems and plans that, same policy in other conotries eventually, all its generations of before selling its share in STC. switching equipment will evolve

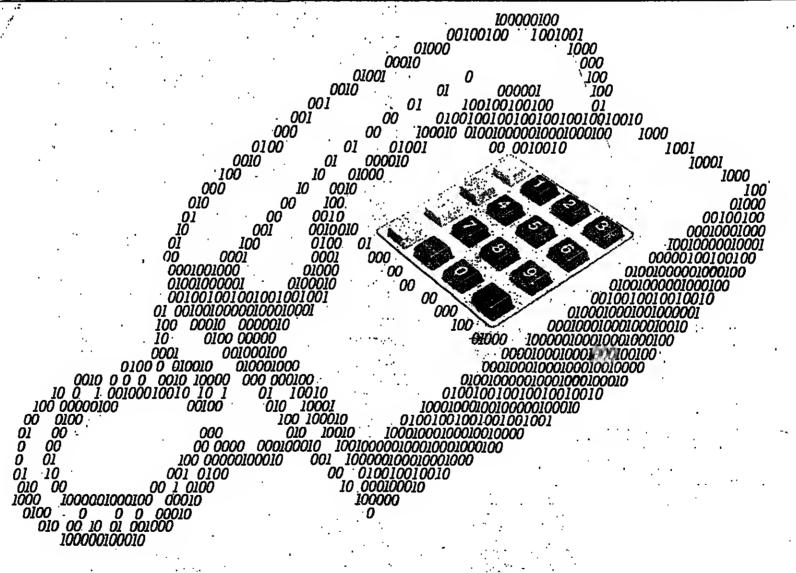
STC in the UK has an attitude equipment industry one French transfer, electronic mail, and (Le medical records will be transmitted from one place to another.

Towards the day when Network 2000 becomes reality it has developed System 12, which is a series of telephone switching systems based on digital tech-niques. The company claims they are designed on its predictions of future needs where access to vasts amounts of information will be essential for human development.

It is becoming a race hetween telecommunications companies such as Philips in the Nether-Siemens in West Germany and 1TT to produce and successfully systems.

During 1979, ITT North Electric in the U.S. had plans to install digital telephone switching systems in more than 50 U.S. cities, eventually averaging two a week hy the end of the year. Between 1980 and 1982, System 12 exchanges will also he installed in Belgium, Italy, Denmark, and Spain.

ITT still looks set for new records in earnings this year despite pessimism about some of its overseas operations. Operating earnings so far this year are 11 per cent higher than with this progress under difficult cooditions.



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SIEMENS

Strategic advantages

the European telecommunica one other advantage over most tions companies. Siemens of of its European rivals and even Germany must be seeded as of some of its competitors in one of the likely survivors. the U.S. and Japan. That is the

This mighty corporation is degree of its integration into a now the sixth largest outside wide variety of electronic techthe U.S., hehind Philips of nologies which are rapidly Holland. Its sales in 1978 becoming more and more totalled \$13.9hn, of which about similar. a fifth came from its telecomment (made by its subsidiary Kraftwerk Union).

Besides its long tradition stretching back to 1847. Siemens enjoys several important strategic advantages in the electronics and communication industries, which makes it an struggle for market leadership

which lies ahead. Europe, and the tide of national protectionism. which is so strong in telecommunications, runs in its favour rather than heing an awkward crosscurrent, as is the case for ITT (International Telephone and Telegraph).

Orders by the German Bundespost for switching equip-ment have been increasing from 1.5m lines in 1976 to 1.8m this year after the terrible slump in 1974 when orders fell to only 500.000 lines. • In addition to a reasonably

healthy domestic market, where Siemens is easily the largest supplier, the company also has a substantial presence abroad, with a total of 40m line units of its EMD electro-mechanical exchanges in operation or on order. Siemens also has a wide spread of telephone equipment manufacturing plants in Finland, Bulgaria, Spain, South Africa, South America, the U.S. Pakistao, Australasia and else-

It therefore has a strong background on which it hopes to build an export performance for its lalest range of fully-computerised EWS-D. exchanges,

Telecommunications

in Saudi Arabia

But in addition to financial

This so-called "convergence" munications division. Tele-communications is its largest obvious in the way in which activity hesides power engineer-computer techniques have ing and power station equip- hecome integrated into the design of telephone exchanges, while communications, conversely, have become increas-

computer systems. However, other types of convergence are now becoming important. On the one hand, the Important contender in the manufacture of office equip-struggle for market leadership ment and peripherals such as printers, is becoming integrated The first and most obvious with the computer and to some advantage is that it is German. extent with the telecommunications industry; and on the other and in some ways the most hand, micro-electronic devices sophisticated bome market in are becoming so complex that individual components can now comprise important subsystems in a telephone exchange or a

Siemens traditionally has heen strong in the manufacture of printers and other electromechanical peripherals. It has maintained its leading position and is a substantial exporter. At the same time, the company has doggedly kept its foothold in the computer and semi-con-ductor industries in spite of very substantial losses over the years from both operations.

Now, the company believes it is heginning to reap the rewards of its patience with both divisions. But more important, it is extremely well poised to take advantage of the expected fur-ther convergence of the different technologies.

This is likely to happen in. hroadly, three ways. They are: first, complete systems, particularly in the private telecommunications market will incorcomputers. complex semi-conductor components and communications techniques. Second, the cross-fertilisation

of engineering techniques between different disciplines is expected to continue to be important. And, third, the pro-

ponents become systems are shrunk into components and computers become omni-present.

Somn of these trends will be slow, but then one of Siemens's great strengths has been that it will take a very long-term riew. Its strategy appears to he to move forward with deliberation and force even if speed must be sacrificed sometimes.

Fettered

Perhaps Siemens's greatest handicap in developing new products for the world telecom-munications market has been that it has been fettered to thn ingly important in the design of requirements of the Germansystem, and more particularly to the German Bundespost. The Bundespost's detailed involvement in specification and design

over its own captive manufacturers.

In both countries the insistence on extremely high-quality for the domestic market-often with a "helt and braces" approach to design-has of an been incompatible with the approach to export markets where the relationship between costs and quality need to be more flexible.

These restrictions and lhe need to work in co-operation with Standard Elektrik Lorenz (ITT's German subsidiary) have more obvious, Siemens realised contributed to the relative slow-that its original concept of comness of the development of a

Work on computer-controlled start afresh with a new design exchange systems started in study for a fully digital system

IF. AS MANY people believe, muscle, tradition and a worlda shakeout is inevitable among wide presence Siemens possesses
tend to become similar as comtend to be come similar as comtend to systems, that of the British Post Office lel paths. On the one hand there was the development of the EWS-O and EWS-F (local and trunk) systems in which computers were used to control miniature electro-mechanical switches. At the same time, development work was proceeding on a fully digital system in

which the electro-mechanical

switches were replaced by

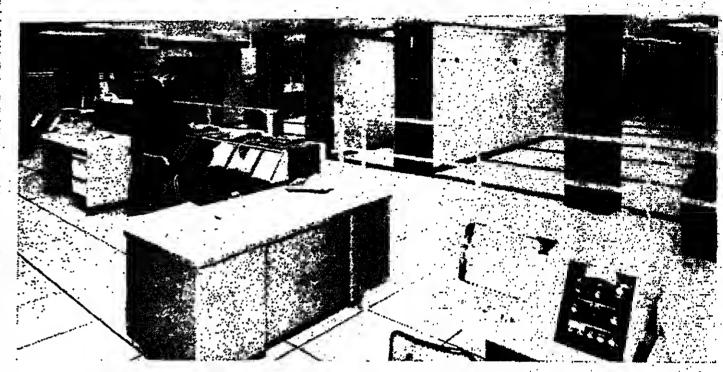
miniature electronic circuits.

However, as component technology advanced, and the lmpact of semi-conductors including the micro-processor became puter control was unsuited to German contender in the inter-national race to produce fully computerised digital exchanges. therefore, it decided in 1977 to

now beginning to emerge from fully digital exchange systems will he lu production next year, and will replace the EWS analogue trunk exchanges. Theo a fully digital local exchange will also be brought into pro-

duction. After a period of relative secrecy and a great deal of anxiety. Sinmens now says it has ironed out the main problems of the system and is satisfied that it is stabilised. During the next 12 to 18 months therefore, EWS-D, on which a large part of the company's hopes for the future are based, will be avaluated by the rest of the world.

M. W.



A Siemens EDS electronic computer-controlled switching system for digital communications.

M. ERICSSON

the Swedish-hased telecommuni- contracts in 1977 and 1975. cations company, that having a relatively small home market September 1977, was a £320m has been a great advantage.

This Idea might appear a little odd to rivals in France, Germany or the UK, where a solid background of domestic orders should provide, in theory at least, the profitable hase for new development and for searching out new export husiness.

A glance at the comparison of the performance of L. M. Erics-son and of its competitors, particularly in the UK, shows thal companies—and perhaps human nature-often defy that logic. Ericsson, particularly, appears to have thrived on adversity. Its international business and undoubted technological success has been huilt. ploneering features. not on a profitable home market, hut on the imperatives of sur-

Its strategy of penetrating world markets by a continuous and aggressive development of technology has made it one of the largest telecommunications equipment manufacturers, with sales, which this year are esti-mated to reach \$2hn and forecast a pre-tax profit of about

Of total sales only about 16 per cent come from Sweden. Just over a third come from the rest of Europe and just under a third from Latin America. About half the company is de-

voted to the manufacture of public telephone exchanges, with a further 13 per ceot in the pri-vate telephone exchange and telephone instrument husiness. In addition to cable and transmission equipment, which together account for about a fifth of output, the group also makes a range of military and other electronic products. Ericsson is therefore much

more dependent on sales of publle switching equipment than most of its European competilors, which are almost all part of large groupings with diversified interests in electronics and other fields. Perhaps the comparative narrowness of Ericsson's husiness, as well as its restless drive for overseas markets, accounts for its success.

Ericsson says that, in 1978, it installed 3.66m lines of local exchanges including those installed by licensees. In addition, it installed 1.5m equivalent lines of transit exchange. This puts Ericsson among the very largest manufacturers. In the U.S. Western Electric produced about 6m lines, ITT produced about 3m, Siemens of Germany, about 2.2m and General Telephone Electronics about 1.5m.

Ericsson's most important product is the now famous AXE exchange system which was the company's second attempt at developing compuler-

THERE IS a theory among controlled network. The ANE the more tangled it becomes, The first announced

> order from the Australian PTT the development computer-controlled network.
> This was followed by a spectacular £1.57hn contract which Ericsson won in a joint bid with Dutch Philips In Saudi

> Although the Australian contract was smaller, it was of least equal significance, for followed the first detailed evaluation of AXE against competing systems by a large and expert telephone administration. Ericsson, certainly took its success in winning the contract as a vindication of its system which had a number of

Advantage

The principal advantage which Ericsson claimed for AXE was its modular design. modularity was imposed on the system after an earlier and problem-fraught design which led to what Mr. Bjoern. Svedberg the president, called "spaghetti programming."

Spaghetti programming is an unpleasant phenomenon known to the designers of almost all the earlier computer-controlled exchange systems. It results from the fact that programmes controlling one function can become inextricably entangled with programmes controlling other functions. An alteration nne programme thus can create changes throughout the system, and the more the of its competitors, notably ITT, engineers pull at the problem have had to undertake.

To avoid this, an extremely modular design structure was

imposed on the AXE concept

consisting of entirely separate functional hoxes. These boxes could contain either hardware (electronics) or software (computer programmes), but they were allowed to relate to each. other only in strictly specified WAVS. For this reason, Ericsson says,

it is possible to make radical alterations to some parts of the exchange without altering the basic system. The system is (so to speak) interested in how all the function blocks behave but has no interest in their internal working. This modular approach has

proved particularly important in allowing flexibility between analogue and digital switching within the same basic system. Ericsson says that the AXE system was originally conceived as a fully-digital system. But at that time, in the early 1970s. digital switching was not economical, particularly for local exchanges.

Ae analogue switch was therefore used for those customers who wanted it. However, the advantage of componentry and to some extent a change of fashion- has now brought fullydigital switching to the fore. Now the great majority of customers have-chosen the digital version and several are in

In this way Ericsson has been able to move over to a digital switch without the need for a complete redesign which some

at the expense of ITT, for both the Australian and the Saudi Arabian contracts were won in the teeth of strong competition from the American conglomerate. And the rivalry between

the two companies has a long and highly-charged history... For almost 30 years, from 1932 until 1960, Ericsson was engaged in a tough and sometimes bitter fight to prevent ITT from using its voting majority of Ericsson shares to exert control

over the Swedish company. The ITT shareholding aross ont of a complicated series of financial deals in the 1920s involving the Krueger financial empire. When this collapsed in 1932 ITT became entitled to Krueger's majority sharehold-ing in Ericsson.

Then, through a long and weary period of reconstruction and negotiation, Mr. Marcus Wallenberg, Ericsson's chalragan for 24 years, succeeded in the dual task of putting Ericsson's finances on a sound hasis and using legal and other means to keep ITT at a distance. Finally, Ericsson managed to buy out the

These financial and political upheavals might not perhaps seem the easiest background for technological progress. How-ever, Ericsson succeeded in the early 1950s in developing a new type of Crosshar exchange to re-place the old rotary system. This design enabled the company to establish itself throughout the world, and clearly laid the foundations for its later success with electronic switching.

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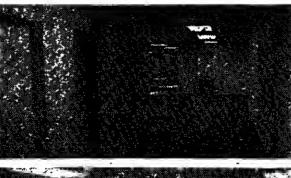
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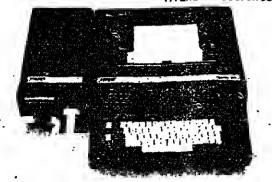
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PLESSEY

Hopes pinned on System X

two UK companies which allegations of financial irregu-dominate the British telecom- larity, made by the MP for the munications manufacturing area in which it is located. Mr. acene, has shown mixed David Alton. A police report trend, with sales and profits up sults in the current year also any of the irregularities involve well up. After a period in the state funds. doldrums, the company's share price has picked up around 20p in four months.

The company, which is acknowledged to have considerable technical strengths, has nevertheless been thought in the recent past to be suffering from stagnant markets and insufficiently aggressive sales-manship, and there are constant rumours-stoked by some of the company's competitors — of attempted takeover. It must he said that at the moment that prospect seems less likely than t has for some time.

Its electronic systems and microsystems and components divisions have tended to be more profitable than the telecommunications operation—the first of these showed a 27 per cent profit growth last yearwhile overseas companies, especially the North American subsidiary are buoyant. They now account for 14 per cent of the group's turnover and 32 per cent of pre-tax profits.

A major drain on the com-

pany's resources has been the Garrard record turntable subsidiary, which at its worst was recording an annual loss of over £5m. This year's loss is expected to be around fim: the workforce has been cut from In telecommunications, the

company's major business, there bave been large and costly problems, too. The company's factory at Edge Lane in Liverpool, which manufactures the electro-mechanical Strowger equipment for the Post Office, was turning in losses of £800,000 a month last year. After drastic staff cuts-1,000 workers from a total staff of 3,500 were laid off-losses are now down to £400,000 a month, and the company forecast last month that the plant would show a surplus over the second part of the curreal financial year. The plant has attracted prob- system

fortunes in recent years, though on the plant has been delivered it now appears to be on a rising to the Director of Public Prosecutions: meanwhile, the last year and first quarter re- company strongly denies that

The recovery at Edge Lane is expected to be due to considerahly improved terms obtained from the Post Office for the Strowger equipment — a margin of 13 per cent over the next four years. This contrasts with orders which were losing some 23 per cent of the sales value, taken at a time when demand was low and contracts were taken at vir-tually any price.

However, the company will not secure its future on the basis on electromechanical equip-ment, now being phased out by the Post Office (and most other

tions company has to endure in order to stay in the game in the 1980s. How is it doing so far?

First, it has stepped up proouction of the semi-electronic TXE4 system, largely for the Post Office (though some systems, under the name of Pentex, are exported): TXE4 earned the company £30m last year, nearly donble the previous year's ontput.

Partners

Much more important in the longer term, the company is one of the four partners (with the Post Office, GEC and STC) in the development of System X. The first production orders from the corporation have been received. and production has already started. At the same time, the company has collaborated in the production of the prototype exchange which will be demon-PTT's worldwide). It must now strated at Telecom 79, in System X does not, of course, sey Telecommunications and be making the major changes Geneva, this month. The success exhaust Plessey's effort to stake Office Systems, and now includes

more critical for this company than its other two manufacturing partners: GEC, after all, has (private digital exchange). sufficient financial strength in other areas to bear failure; while against the pest-is other areas to bear failure; while against the pest-is of structure advanced than the equivalent product from IBM. The Plessey product from IBM accorded to receive product from IBM and conversahelp from its parent. Plessey stands alone: and the comment made of System X-that it is UK telecommunications' last chance to break into world markets— applies with poignant force to

Success, however, could mean that Plessey recovers its pre-viously important position in the export market-though not as a single company, rather as a part-ner. It has co-operated in the formation of an international marketing operation to selt System X abroad, and while details have still to be made nounced that the company advanced systems. Competition, clear, it is likely that some loss of individual identity will be ment market: Plessey Telecomentailed.

PLESSEY, THE smaller of the lems of a quite different sort— every electronics/communica- of this venture is obviously much a claim for itself in the micro- a specialist office systems subsielectronic future. A major diary. The PDX will be the hub development has been its PDX of Plessey's office system, capwhich it claims-matching itself exchange encodes all conversa-tions in digital "bleeps" (other on its back. systems use analogue or conventional electropic current to mirror speech), and has been successful in UK markets. At the same time, the CDSSL to he marketed under the name "Monarch," has already been approved by the Post Office and

the first production order—worth £14m—has been placed. The CDSSI is also digital. Early this year, Sir John if it shows the same ability to Clark, Plessey's chairman, an market as it has to develop would enter thte office equipmunications was renamed Ples-

able both of a cumminutestions function and of accounting. The PDX - manufactured under licence from Rnlin Corporation

Further, the group is reigtively strong in the digital telex market, and has supplied equipment for the Post Office's new " packet switching "-the (ransnussion of data messagesmarket.

In sum, the company can take advaotage of the future growth nf the communications market however, will be tremendously fierce: and the company most still prove that it can live with

J. L.

SIT-SIEMENS

Political battles

IN 1TALY, the telephone SIT Siemens, which was administration's wish to move nationalised after the 1939-45 towards a system of fully com- war, supplies about half of puterised digital exchanges has run into a thicket of political and industrial complications.

Even the fact that the country's largest telecommunications manufacturer, SIT-Siemens, bas a Cerman name but is owned by the Italian Government, involves complication. For it raises the question of whether the Italians should buy In new technology from abroad or—for reasons of national pride mixed with industrial politics—continuo to trudge the long bard road towards the development of a truly national

Italy's requirement for telewhich is now running at about link-up, because 600,000 lines a year. With most of a annual orders of a little over exchange system other telecommunications com- the panies in Europe, particularly engineering the multi-nationals.

It is not surprising, therefore, that the development of its new electronic system of exchanges, called Proteo, is considerably behind that of some of its major European competitors. The first expected to develop a joint Proteo exchanges in service range along with SIT-Slemens. represent, indeed a staging post towards the eventual goal of a fully digital computer-controlled system using Time Division Multiplex (TDM).

Pulses

TDM is the method by which the computer language of digital electronic pulses is used to in-terleave a large number of tion is allocated a time slot in sequence, during which a burst of digital transmission encodes fraction of the original voice signal. These fractions are then all put together in the correct order to reconstitute the origi-

However, the first Proteo exchanges used a different system called Pulse Amplitude Modulation (PAM) and were not able to exploit all the advantages of the most modern computercontrolled digital systems.

The company is pressing ahead with the expensive and difficult development of the next generation of equipment which it hopes will be as advanced as that of its international competitors. The first terminal exchanges in the Proteo system went into service in 1977 after a period of development which started in 1970. A transit ex-change is under test in Milan and several more terminal exchanges will be nut into service during the next three years.

Dr. Georgio Villa, general will not be until 1982-83 that

manager of SIT-Siemens, says it the company has available a fully SPC (Stored Program Control or computer-controlled) digital system.

Italian Government officials are nrivately sceptical as to whether SIT-Stemens will he able to maintain this schedule. Telecommunications companies throughout the world have exnerienced difficulties and delays in perfecting the very intricate computer programmes (software) needed to control such systems. And there are questions whether SIT-Siemens bas the technological muscle to push through its development programme to the tight time-table which is being dictated by increasingly fierce international competition.

For SIT-Siemens, in common with every other telecommunications comoany, is anxious to obtain a slice of the world's export markets to offset the steep reduction inthe labour force, which the chance over to electronic techniques would otherwise make necessary.

Mr. Villa says be would like

to achieve exports of 25 per cent of total production by the mid-1980s. However, British French, German and Swedish manufacturers all have similar ambitions, so that it is unlikely that there will be enough business to satisfy everyone. Sneed in developing the new system is therefore extremely important. This is one ofthe reasons who an agreement with Teleftra, a

smaller comoany controlled by Fiat, which hitherto has made

SIT - Siemens, which was mostly electronic transmission equipment.

As has happened in other countries, the Italian Ministry phone exchange equipment, of Industry has encouraged the link-up, because the developcomputerised exchange system is such a for-300,000 lines, SIT-Siemens is midable undertaking that the relatively small compared with best use must be made of all available electronic resources, wherever they happen to be situated. Telettra, which has been diversifying from its suc-cessful range of transmission

equipment into the field of clectronic switching, is now However. SITSiemens has other possibilities, one of which would be a deal with General Telephone Electronics (GTE)

of the U.S. which has an Italian subsidiary and has already developed a range of fully have to be adapted to special regulrements of the Italian system. There clearly would be an advantage for both separate telephone calls in the companies and for the state same circuit. Each conversa- controlled Telephone operating company, SIP, in having a common system between the two suppliers. Together SIT-Siemens and GTE control about 65 per cent of the domestic switching market.

Telettra has already held detailed talks with CTE which resulted in a technical co-oneration agreement. It remains to be seen how this will relate to the hond hetwen Telettra and SIT-Slemens and whether all three companies will eventually produce a common system for

These questions are given an

discussed.

However, although a foreign licence would certainly be the quickest, and probably the cheapest, way for the Italian company to produce a new system, it would certainly limit and perhaps altogether pre-clude the possibility of exports. For a cobipany like SIT-Sigmens, which employs 18,000 people, of whom 12,000 are in the ' question exports is of paramouni ímportance. When all production is of electronic exchanges this labour force will have to bc reduced by half or even mnre unless increased orders can be obtained from abroad.

Threat

The threat to jobs in an take precipitate action against industry which currently employs about 60,000 people is one only because it is anxious to of the main reasons why the Italian Government has to take a close interest in the future nationals is also an asset to alignment of the companies, the Itelians, particularly while In addition, the state sector is there is uncertainty about the the major customer for all the future strategy of SIT-Siemens. companies as well as controlling SIT-Siemens.

For this reason there has intriguing twist by another been considerable debate dur-possibility: that SIT-Siemens ing the past year, not only might go back to its former about how SIT-Siemens might German parent for a techno-relate to GTE, but about how logical licence. The electro-the two other multi-nationals mechanical exchanges which might fit into a realignment of SIT-Siemens still produces are the telecommunications manuall made under licence from facturing industry in Italy. Siemens of Germany. The possi- Toese two are ITT, whose subbility of taking out a new sidiary FACE has about 15 per licence to produce the new cent of the switching market, German EWS system of and L. M. Ericsson ul Sweden, computer-controlled exchange whose subsidiary FATME, has

equipment has certainly been 19 per cent of the market. These market shares are stabilised by the fact that each company serves a different gene for historic reasons, and all of them have factories in Italy, from which jubs cannot easily be jettisoned.

For the time being, there-fore, SIP has encouraged all these companies to develop their different systems for the requirements of the Italian market while expressing the hope that they will seek ways of reducing the miniber ut separate systems. SIP ond the Government have also but pressure on the multi-nationals to increase exports from Haly, and indred this tacitly has heen made a condition of their

continuance no Italian soil. However, the Italian Govern ment almost certainly will not any of the multi-nationals, if only because it is anxious toprotect employment. The technological strength of the molti-

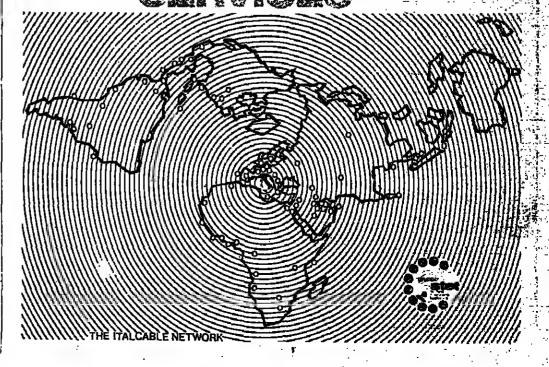


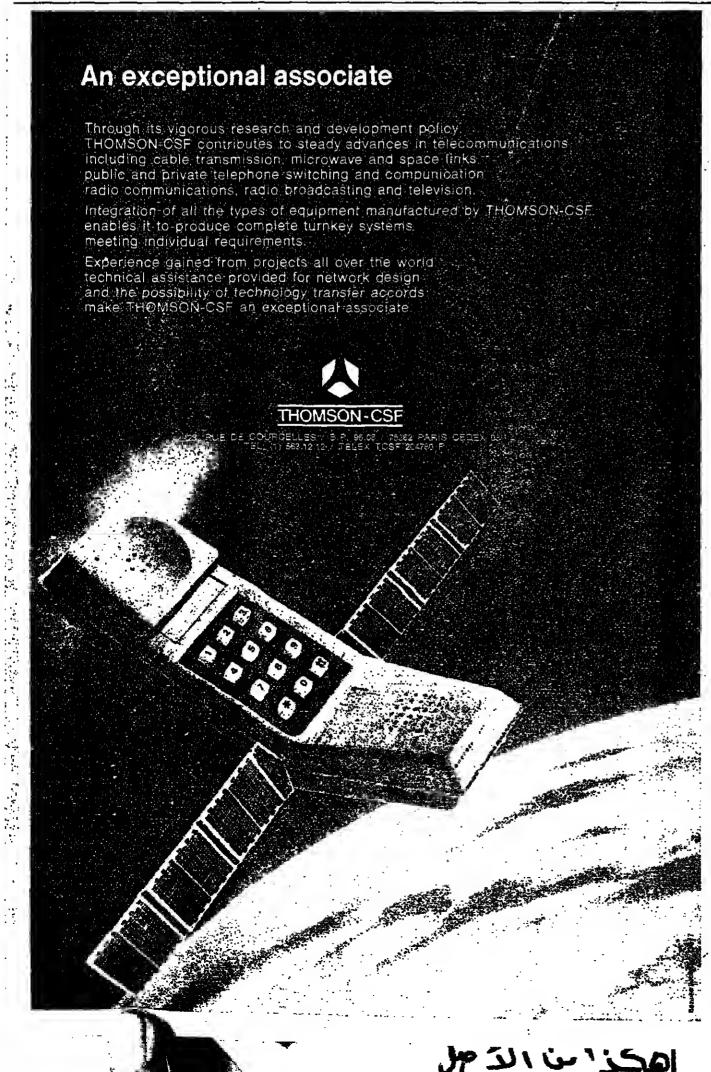
italcable

The 1978 Annual Report underacoras the continual Increase in the Company's traffic volume - operating income went up by nearly the third and this frend is orienting **ITALCABLE** to a threefold expansion of its

Intensification of activitias is largely expleined not only by ITALCABLE's collaboration with developing countries in setting up telecommunications systems but, importantly, by its growing commitment to cater at maximum technical level to the needs of highly industrialized countries throughout the world by creating increasingly diversified technologically sophisticated

In this way ITALCABLE is progressively implementing its operational policy based on world-wide expansion coupled with a constant updating of expertiae and epplication of the most advanced relative tachnologies.





PHILIPS

Strong emphasis on research

two per cent of the business PRX system. carried out by Philips, the Dutch electronics group, to

around 10 per cent.

Philips' history in the telecommunications industry began shortly after the Second World War when the Dutch bad to carry out extensive renovation

OVER THE years telecommuni- a computer-processor-controlled cations has grown from only range of exchanges called the

In 1972 the first trial system was installed at Utrecht, with the co-operation of the Dutch posts and telecommunications authority (PTT) and by 1973 it was accepted for widescale introduction in the Dutch net-

carry out extensive renovation of their lelephone actwork
because of the severe damage it had sustained.

The company began looking at the possibilities of making electronic exchanges in the carly 1960s, using the transistor and some measure of computer control. By the end of the decade it had begun to develop

been the monopoly supplier of equipment for the Dutch telephone network, but the PTT has heen looking around for an alternative supplier helieving that dependence on one com-pany is not sound commercial sense. It chose L. M. Ericsson as a second supplier and Ericsson will he providing its

For a long time Philips has markets for its equipment exist communications systems more outside the Netherlands.

So far its PRX system has been installed in Jersey, Indonesia, Brazil, Peru, Saudi Arabia, and Aruba Island, in the Caribbean, accounting for sales of nearly 100 exchanges.

The latest development of the PRX exchanges bave been the production of a digital system which uses micro-processor and very large-scale integration techniques. The first of these is being installed in the Dntch network and will go into service next year.

However, Philips believes that large parts of the tele-communications network will remain analogue for a long time and that digitisation must follow a carefully-prepared plan. Otherwise, the telephone authorities could make their networks worse, not better, for their subscribers.

But Philips is also looking very carefully at the techniques of the future. It places a very strong emphasis on research and its research organisations receive finance which makes them independent from the product groups or division they serve. The company estimates that about 1.3 per cent of its sales revenue is set aside for finance.

It is actively investigating all the latest developments in telephone technology such as optic fibres, and viewdata information systems as well as seeking ways to make the present tele-

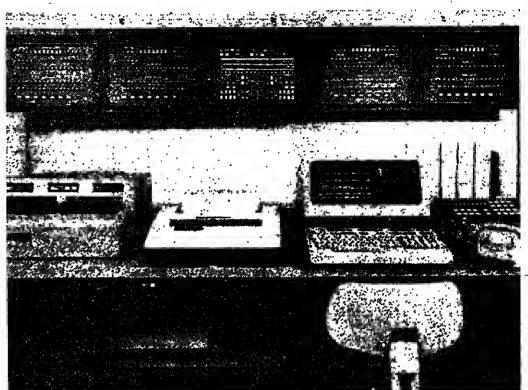
For example, over the coming years information such as computer data, pictures and speech will all he sent in digital form. While suitable digital transmission methods have been developed for conventional telephone cable and optical glass fibres, no efficient methods exist for digital transmission via radio links.

The problems have been that digital information takes up a lot of the available bandwidth in simple terms, the transmitting space—which is a very wasteful use of the limited and congested airwaves.

Philips has been working on the design for a different system of transmitting the information in digital form which occupies a very narrow bandwidth and makes more efficient use of the frequency hands. It is called "tamed" frequency modula-

In all Philips has about six research laboratories, based in the UK, France, Germany, Belginm, the U.S., and its major Germany. operation in the Netberlands employing over 2,000.

Telecommunications is just one of about 13 separate product groups which make up the activities of the organisation. But Philips is trying to ensure that it remains in this field despite the problems which exist in the industry.



A Philips telephone network. At the top ore two central control unit pairs with the system control panel in the middle. Below, from left, ore a control tope cassette unit, hard copy line printer, VDU and transportable test panel for entering command instructions

NORTHERN TELECOM Rapid expansion

tions manufacturer and is facturer in the U.S. (though it is probably second equal with GTE) and fifth or aixth largest in the world. It is one of a "tricorporate family" (as it describes them) of companies, whose other two principal mem-bers are Bell Canada, the parent operating company, and Bell Northern Research, the research and development organisation. on which the company places much stress.

The company has almost 100 years of history behind it—It hegan in 1882—and now has 27 manufacturing plants in Canada, subsidiaries in the U.S. with 23 plants, two factories in the Irish Republic and one each in the U.K., Brazil, Malaysia and Turkey. It is growing strongly—sales in 1978 were, at C\$1.5bn, \$280m up on the previous year, while the profits of \$100m were up by \$15m on 1977. The company's chalrman, Robert Scrivener, told his share-holders that much of that growth was, and would continue. to be, abroad: " As we have forecast for the past several years, Canadian sales continue to drop as a percentage of telecommunirations manufacturing sales. The continued expansion of our U.S. and international opera-tions will mean an even more significant proportion of our sales will he made outside Canada in the coming years. This, even though we expect our Canadian operations to grow substantially over the next five

Markets

Much of the foreign activity to which Mr. Scrivener refers is centred on the U.S.: he remarks elsewhere in his report to shareholders that in Europe, as in other markets, sales were small because procurement and technological decisions are often made to meet national redustrial development policies rather than the more famillar criteria of technology, quality, reliability and price "—a tactic of which Mr. Scrivener disapproves: however, the sales

subsidiary, Spectron, which manufactures equipment to test manufactures equipment to test and monitor the quality of date transmission. Both companies, especially Danray, grow rapidly: while the previously-acquired Cook Electric Company of Chicago saw sales and profits grow by 21 per cent and 66 per cent respectively:

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NORTHERN TELECOM is A second pair of acquisitions, housing for the telephone, and Canada's major telecommunica- also in the U.S., was made by becomes an opportunity for the company's systems division, an international force. It claims to be the second largest menufacturer in the U.S. (thousand force) and second largest menufacturer in the U.S. (thousand force) as systems division, NT Systems Corporation, formed to oversee its office equipment division. The division of the control of the equipment division. The divi-sion has taken over Sycor, of Ann Arbor, and Data 100, of Minneapolis, both with a strong presence in the distributed information processing terminal market. The company sees the acquisition of these companies as "an essential element in the creation of a corporation that will be a leader in the clearly identified trend of a coming together of the telecommunications and data processing tech-nologies—a theme on which the company places strong emphasis. company emphasis.

In the all-important area of switching, the company has marketed for the past eight years the SPI computer-controlled electronic exchange, which helped bring computer-control techniques to smaller town and rural exchanges both town and rural exchanges both in Canada and in the U.S. NT is even prouder of its DMS digital switching range announced in 1976 and claimed to be the "first telecommunications manufacturer in the world to publicly commit itself to firm introductory dates for a complete line of digital st and transmission systems." The range goes up from the DMS 1, with as few as 32 lines, to the DMS 100, with as many as 100.000 lines, designed as a central office switching system. In the past year, the DMSIO,

with a capacity from a few liundred to 12,000 lines, has re-ceived a welcome in the U.S. independent operators market. one which is crucial for NT if one which is crucial for NT if it is to grow and succeed with its new digital family. It also notes that its private business communications system, the SLI, doubles its shipments to the U.S., while also selling in Europe, Asia, the Middle East and Latin America. in research and development,

the company, together with ben-Normern Research, is in-creasing its stake. It spent soom on research last year, up over 40 per cent oo the previous year: 11 plans to spend \$135m in the current year, more than \$,000—oue in every nice—or its approves: however, the sales made in Western Europe are "another beach-head in what we consider to be one of our major markets of the future."

Over the past year, then, the company has concentrated its foreign effort on the U.S., and has seen strong growth. Operating through its subsidiary, Northern Telecom Inc., it raised sales by 52 per cent over 1977. Two important acquisitions were made: Danray, m Dallas, which produces computercontrolled switching equipment and private exchanges: and Eastern Data Industries with its subsidiary, Spectron, which

This strategy, together with the pattern of acquisitions, are in turn part of a greater plan which the company gives the generic name of "the Intelligent Universe." The concept is by no means unique to the company — indeed, every advanced communications company shares in it and uses it as a backdrop to its decisions: NT is unusual in the stress it lays upon it, presumably designed upon it, presumably designed both to imhue its workers with the idea and to introduce it to. its customers. At times it reaches quasi-messianic fervour in describing the end product of this universe—"since all systems in the Intelligent Universe are electronic, the distinction between the hasic elements, computers and telegrammunications. clements, computers and tele-communications, begins to disappear as the Intelligent Universe evulves. Systems be-come increasingly similar in function and design: equipment similar both in what is done and how it is made. Eventually computing, data processing and communications networking be-come a meld of very similar and compatible equipment." Thus the theory behind the practice: the reason for 1be acquisitions, which in turn dictate a search for an ever-

the need to acquire expertise

in and the capacity for data processing. The office has ceased to be merely another

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of the comparatively flat Canadian economy into other markets, especially the U.S. Northern Telecom has got its message well rebearsed: it now needs the markets to hear it.

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NIPPON ELECTRIC

Bid for major contracts

making the Japanese as keen competitors in the telecommunications field as they are in cars and consumer electronics.

In the past few years, the company has made it clear that. it means to hid for the major contracts throughout the world. that it has a strategy for entering the rich American market. that is one of the leading—if higger part than at present in microwave not the leading—company in the Nippon Electric's affairs, which especially in world for satellite technology and for micro-wave stations, and that it will he a prime mover in the group of Jaconese companies market, especially on price. which are deliberately attempt. Japan's economy is not expected ing in concert with the Japanese to pick up markedly, as those ing, in concert with the Jaoanese Government, to take on IBM.

Nippon Electric has been in existence for ahout a century, and was huilt up again after the 1939-45 war with the aid of the Bell subsidiary, Western Elec-tric (with which it is now often in fierce competition). Since the mid-1970s the company's fortunes while on an upward trend, have dipped and surged: down in 1975 and 1976, very strongly ahead in 1977, ahead again in sales last year, with a dio in the rate of profit.

Last year's sales stood at \$3.3hn, up from \$2.9hn in the previous year; profits were \$63m. down from \$94m in the previous year. a company record. Mr. Koji Kohayashi, the company's chairman, said aluggishness in the Japanese economy. the rapid appreciation of the ven, foreign worries over the Europe as a prime area for increasing trade imbalance

ployees, many of them overseas. European market to determine Like many Japanese companies, when, where and if its invest-devices are manufactured in Nippon Electric moved strongly ment should he placed. It is volume."

ioto export and overseas markets possible that it will npgrade its in the late 1950a, initially with plant in Ireland, but that is Dallas earlier this year, Mr. direct exports, but gradually changing over to direct invest- option. ments in plant and affiliates.

These international operameans that the company will be still more competitive in the world telecommunications of Europe and the U.S. are, and so these parts of the world will hecome, even more, prime

In the U.S., the company'a sales have gone up despite the rapid rise in the yen : the company bas opened a manufactursubsidiary in the suburbs of Dallas, Texas, to manufac-ture electronic PABXs (private automatic branch exchanges)and in Lexington, the company opened a wholly-owned subsidiary named NEC Information Systems to market computers and peripherals. The third company in the U.S. is NEC Microcomputers, which ex-

panded its sales in 1978, too. In Europe, the company so far has been less successful than in the U.S., though, in common with other electronic and communications companies, it sees

port a reasonable increase in strong indications that the sales volume in fiscal 1979." company is about to make a company is about to make a switching systems are now on The company is now fully major push into the European multivational: it has 36 plants seml-conductor market, of which and 50 sales offices in Japan. Japanese companies at present in service for distributed pro-complemented by overseas take only \$25m in a market cessing requirements, a variety separated, and that to be in affiliates operating 13 plants in estimated to be worth about of terminals have been devel-one, you must be ahead of the oped for man's interface with game in the other.

apparently thought an unlikely

Elsewhere in the world, the company bas profited from the tions are intended to play a swing towards satellite and microwave - transmission, end of the century.
especially in developing countries. In the past year, it has sold microwave stations to Brazil, Algeria, Egypt Ghana and Zamhia, and had satellite earth station orders from Colombia, Guyana and Uganda. The Algerian order will be a particularly arduous one to complete, involving as it does the construction of a 1,200-mile microwave link across the Sahara Desert, with 62 repeater stations making up the link.

In Japan, the company is the prime supplier of all sorts of equipment to NTT, the Japaneae PTT, including a joint project of 11 miles of fibre cable. It is also a major supplier to NHK, the Japanese broadcasting system. Nippon Electric has been a leading participant in amhitious scheme. heginning this year to provide a high-capacity mobile telephone system which is aimed at accommodating 1m subscribers.

The company has its nwn term to express the marriage of computer and telephone, which it sees as Its guiding philosophy—it is "C & C." The project has been met by a good deal of alarm from U.S. manufacturers, especially the tions earth stations in Austria his shareholders that he semi-conductor manufacturers, expecially the semi-conductor plant in Ireland and the UK, and has a small expected "the C & C market semi-conductor plant in Ireland to expand even further and offer new opportunities for the semi-conductor manufacturers, whose aggressive technical skills and salesmanship have swent offer new opportunities for the semi-conductor manufacturers, whose aggressive technical skills and salesmanship have swent offer new opportunities for the semi-conductor manufacturers.

"Our digital electronics

THE Nippon Electric Company and other facilities in eight The company is carrying out computers and communications is largely instrumental in more. There are 60,000 em a financial analysis of the networks, and solid-state highintegration micro - electronic

> Dallas earlier this year, Mr. Kohayashi, whose company was demonstrating a voice-activated computer, said flatly that C & C would revolutionise office and factory production before the

> More immediately, Nippon Electric is in the front line of a co-ordinated, "Japao Incorporated " push into computers, in which MITI, the country's trade and industry ministry, together with the main comleading plug compatible house Fujitsu, Mitsuhishi, Hitachi and Toshiha — have sought to develop Japanese ways of heating IBM (IBM still holds around per cent of the Japanese

> The houses have amaigamated into two groups — Fujitsu/ Mitsuhishi/Hitachi and NEC/ Toshiha, the first moving into the IBM plug-compatible market (it has linked with Amdahl, the leading plus compatible house in the U.S.) while NEC/Toshiba took the same route as the UK company ICL, hy developing their own line.

> However, all five companies collaborate on joint research into the MITI project for research into Very Large Scale Integration (VLSI) with the aim of putting even more components un a sliver of

Nippon Electric is a prime mover in this thrust, helieving the market, computers with as it does that computer tech-communications capability are nology and communications

GEC

Steady growth

sey and Standard Telephone and Cahle, the UK subsidiary of ITT. The biggest of these is GEC, the country's largest elecits largest private employer outside developments in the (155,000 in the UK, and some communications market. 27,000 nverseas).

The past year saw another

period of steady growth—sales were £2.5bn, nearly £160m up on the previous year: profit after tax, at £220m, was more than £60m up on 1978. The company has interests spanning the range of electrical products
—it makes TVs and other consumer electronic products, lighting of all kinds, specialised integrated circuits (and will soon, in alliance with Fairchild of the U.S. go into mass IC produc-tion), heavy power plant, measurement and control instrumentation, space and defence equipment, wire and cables, gas turhines, mobile radios, diesels. and, of course, telecommunications equipment.

Spread

This spread of interests means that the company does not, as do Plessey and STC, rely heavily on telecommunications: however, the importance of the telecommunications division has been underscored both by the company's move into high-volume IC production—telecommunications is a major user of chips—and by the acquisition of the U.S. office equipment company. A. B. Dick: Telecommunications, as we have seen, s the hase technology for the office of the future." ten years after GEC in its present form was created, after a merger of the company with English Electric and AEI, GEC must once more make hig decisions about its future, especially in the communications market.

The main GEC divisions and ineir 1978-79 turnovers are shown on the accomoanying table: it can be seen that the contribution made by the tele-communications divisioo - in which electronics and automation are included-is the largest single ooe. Even this understates the case: the important cable and wire division is Itself strongly in the telecommunica- facsimile and data."

THE UK home market for tele- tions market, while the same communications is dominated by may be said for many of the overseas companies. Only the three companies—the General overseas companies. Only the Electric Company- (GEC), Plespower division (heavy turbine generators, gas turbines, switchgeor and transformers) and the industrial division (diesel GEC, the country's largest electronics company hy far, and also tric motors and lifts) are wholly

> The consumer electronics division, where performance has heen least satisfactory, is still largely outside: but the convergence of TV and telephone technologies through Prestel points to developments in consumer electronics which are already generically known as the "home of the future." In which the TV set takes pride of place as a medium unt just of entertainment but of education, purchasing, domestic device control, security and possibly even excreising the voting right as well. GEC's TV division since last year has been largely run hy the Japanese company Hitachi, under a joint arrange-

Like Plessey and STC, GEC Telecommunications has gone through a lean period in retent years, both because of the falloff in orders from the Post Office (now increased once more) and because of the transition from electromechanical equipment to semi- and fully-electronic exchanges, which is continuing, a move which has encouraged The profits in telecommunications recovered from a dip in the previous year to exceed the tween the three manufacturers level set in 1976-77: deliveries remain, and could threaten to of the large semi-electronic disrupt the co-operation be-exchange, TXE4, were stepped tween them and the Post Office up: and orders over the past year were around £200m.

In the husiness systems market, the company has introduced a husiness communications system known as the SL-1, which can he linked in to the electronic typewriter, visual display screens and computers, manufacturers the Post Office scrihers' system (CDSSI), which it sees as complementing the range covering up to 7,600 it seems unlikely that GEC will extensions and provides the make a hid for either of its nucleus for integrated office two collecteds (the move would automation systems capable of be unlikely to attract the

Power engineering Industrial
Electronics, automation and telecommunications Components, cables and wire..... Consumer products Associated companies Overseas Subsidiaries Associated companies Other activities and items Interest receivable, less payable ...

Source: GEC annual report 1879 (includes inter-group sales).

Also in line with the other tions of industrial or economic

Profit before

companies, the telecommunica- viability). tions division has much riding on the success of System X in the export markets. The comment to System X over the past year, and now has the first ex-changes in manufacture. Though little is known of the development of the system (whether at GEC or anywhere else), it. appears clear that, first, the Post GEC that "the company has are Office has thrown a good deal of excellent record of achievement." weight behind its development, reflecting strong management; a move which has encouraged . . . (it) . . . has a major come. the manufacturers; and that, second, mater differences between the three manufacturers which presently exists.

Boetructine.

An attemut to restructure the telecommunications Industry. made he the National Enterprise Board last year but never revealed officially, came to nothand which is fully digital. At ing: GFC was reportedly in the same time, the company favour of it, but problems over. the status of STC and doubts standard customers digital sub- from Plessev were understood. to stand in the way of success. Speculation of widescole re-SL-I "to give an all-product organisation has now subsided; handling such services as video. approval of the Monopolies Com. giant in the next 12 months. mission, leaving aside considera-

For the future, the company appears relatively strongly placed: extremely atrong within the UK economy, and arguable in the major league worldwide; though, in terms of turnover, near its foot). A recent authoritative review by stockbrokens. Laurie, Millbank of the UK electronics scene concluded on

mitment to areas with growth potential over the long-term ... we are optimistic about the future for the electronics, automation and telecommunication division . . . in the overses, markets where GEC unerstes, we would be most uptimistic about plans for growth in the

In the past year, the com-pany has formed joint ventures with Hitachi and Fairchild, bought A. B. Dick and seems likely in huy Averys, the weighing machine company, now that the proposed hid has been cleared by the Monopolles Commission. With cash assets of around £700m, GEC can clearly: afford to shop around furthern the U.S. appears to be the nreferred geographical area: while! communications must be the nreferred sector. We can expect-

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Plastics' salad days are over

prercapacity, weak prices and demand, ising costs: it is now having to The are the added strain of coping with the onset of middle age. The youthful days when the wurld was its oystar are fading ast as growth rate in demand alls back From now on it is oing to bave to work that nach harder to stimulate sales maintain its position in the

There are a number of ways io which chemical companies an try to deal with the niustry. In the short-term they can attempt to boost market shares by cutting prices —although the greater part of the industry is praying that no one will take this particular pation. Looking further abead. they can conceotrate on iterationing their businesses and on making production

processes more efficient.

ioternational market place.

Annther approach is to start ovesting substantially larger ums in research and developnent in the bope that a better product will tempt new sistomers and arouse fresh nterest in old ones. Some lastics producers could even Moose to go one step further ind branch out into speciality inducts. The disadvantage to his is that it requires heavy apital spending on new plant. There are aigns that the nation plastics companies are bloking along slightly different ines in planning for the next the or 10 years. The nnly ining they are all agreed on is that they have to come to-terms with the fact that their nthistry's salad days are nver. .

market growth depended largely on substituting plastics for traditional materials such as wood, glass and steel. Obvious opportunities for expansion through substituting existed

. For many years the industry's

EUROPEAN plastics right up to the early years of ndustry has spent the last few this decade and they were cars struggling —with reflected in a steadily rising

UK-hased Imperial Chemical Industries, which produces three of the five major polymers, says demand for polychloride — PVC — was growing at an annual rate of 12.5 per cent during the early 1970s while demand for low density polyethylene-LDPEwas increasing at an annual rate of 16 per cent. Demand for polypropylene was rising by a thumping 25 per cent a year.

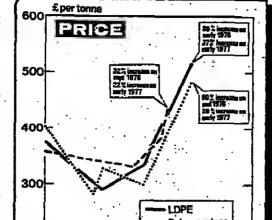
This rosy picture was abruptly shattered by the Organisation of Petroleum Exporting Countries and the 1973 oil crisis. During the ensuing recession, demand for polymers slumped,

It has been building up again

ever since and during the recovery period there bave been some dramatic year-on-year increases in the demand for individual plastics. But none of the chemical majors now expects demand to grow con-aistently at the rates of earlier years. They are well aware that ladies of a certain age have to slow down a little. Yet they are slow down a little. Yet they are hy no means filled with despair by the outlook for the next four by the outlook for the next four "Yet cutlery could be asid to or five years—despita most of have provided an obvious them being resigned to the pros-pect of a recession in the West in 1980-81.

Nearly all of them stress that while most of the obvious sub-stitutions for traditional materials have already been made, the possibilities are far from exhausted. They add that the current oil crisis is certain to boost demand for plastic simply because it is so much lighter than metal or glass and therefore more energy

efficient. The Shell international group of chemical companies also says there are probably still a been seized. It mutters darkly mer to another. ICI reckons that someone might have that over the next five years



1979*

DEMAND M LDPE 1979* 1978

thought of bags and spoons sooner.

200

to 18 months that plastic cut-lery—usually made from LDPE -has really started taking over enough opening for substitu-

Paper bags

" Aoother example is plastic bags. Three years ago around produced were still being made of paper and only 40 per cent were plaatic. We estimate that today some 90 ner cent of all bars are plastic."

The growth in demand which the chemical companies are looking for-few are so bold as to commit themselves to a hard number of opportunities, for and fast "forecast" or "pre-substitution that have not yet, diction"—varies from one noly-

in demand of 5 per cent for "It is only during the last 12 LDPE, 4 to 5 per cent for PVC and between 12 and 14 per cent for polypropylene.

> The group admits that it is "probably more bullish than anyone" on the outlook for polypropylene atthough it is not alone in expecting this year's demand for the polymer to be 20 per cent up on 1978. Some other, producers are projecting an increase of 25 per cent compared to last year.

Polypropylene is one of the

most flourisbing plastics at present—partly because it is so much younger than some of the other materials such as PVC. ICI believes there are particularly good prospects for polypropylene in the car components field. The group points out that the use of plastica in the European automotive industry is growing rapidly—but penetra-tion is still well below the levels achieved in the U.S.

One reason why ICI is so optimistic about the future of

there will be an annual increase polypropylene is because estimates supply and demand for the polymer should be in balance by 1982. The supply position on the other major polymers is generally bleaker, with little bope of a quick and to current overcapacity in production.

> ICI states, for example, that at present there is "a lot of apare LDPE capacity swilling around in Europe" and it reckona that next year most LDPE plants will be operating at only 80 per cent of their potential. It believes a small but steady growth in demand will slowly mitigate this situation, but it estimates that capacity utilisation will reach 95 per cent uotil 1985.

This could mean a long baul for companies making LDPEespecially as it will come on top of what ICI estimates to have been a combined losa of £200m by European producers of the polymer last year.

Another factor that could de-Another factor that could detract from the reasonably hope-

the major Europeao chemical ing substitution opportunities, producers. The dramatic rise in Europe's plastics producers will the cost of nil-based feedstocks still have to develop somewhat -chiefly naphtha-which fol- different policies if they are to demand growth. One company lowed the revolution in Iran see their industry age both that has decided to move gave the chemical majors the gracefully and successfully. opportunity to raise substaptially the prices of their plastics materials and so far the in-

Repeated attempts to put up going for volume in a weak activity—better calalysts can in-market at the expense of price. crease efficiency by as much as The fear now is that a recession 10 times. next year will bring a resurgence of what was effectively a Drice war.

An economic downturn could bring much stiffer resistance to higher polymer prices and many of the smaller plastics processing companies which buy from the chemical majors would, in any case, be vulnerable during a recession. Yet in real terms plaatics prices have not risen very steeply during the past three years.
ICI's LDPE, for example, was
priced at £375 a tonne in early

1977 but was forced down to £290 a tonne early last year be-fore rising in stages to £515 a tonne by last month. Compared to the beginning of 1978 the group's LDPE prices have risen 80 per cent—but compared to the start of 1977 they have gone up by only 37 per cent.

A return to weak prices plus

continuing overcapacity could do much to temper the benefits of a projected steady, if modest,

The Shell chemical group reckons the industry will opl for the fairly conventional opproach of trying eveo harder to cut production costs. It says its own pricea during the last few years researchers are looking to such had all failed because some promethods of streamlining costs as ducers had always insisted on using catalysts with bigher

Development
Shell thinks the scope for modifying the products themselves is limited. It says most of the obvious improvements have already been made although it admits there is still some room for development—especially in polypropylene.

The group does not foresee any strong movement away from commodity plastics into special-ties. It points nut that diversification into specialties is extremely costly because of the different technology that is required. It adds that a changeover of this type would probably take between 10 and 15 years to plan and follow through because of the new plant that would have to be built and the human expertise that would

bave to be acquired. Hoechst does not expect the major polymer producers to go growth in demand for plastics into highly specialised plastics materials. On the other hand, either but it does think there these same two elements could will be far more work put intu lead to a greater degree of the modification of existing rationalisation within the industry. This might be brutal but it would make conditions far easier for the fitter compaoies which survived.

The industry materials. It believes that further research will lead to polymers "with interesting oew properties" and it cites such receot developments as laminative of developments as laminative of developments. ates of dissimilar materials.

The German group says that

ful picture on demand growth maintenance of sensible pricing "substantially more" will have is a return to price cutting by and the mopping up of outsland- to be spent on product research but it adds that Improved polymers with new market applications could do much to sustain towards speciality products is BP Chemicals.

> The company recalls its thinking when deciding whether or not 10 huy sections of Union Grbide's and Monsanto's chemicals husinesses in Europe last year: "We saw an industry likely to enjoy growth rates above those of GNP for some time to come but an industry heading for its mature phase. particularly in respect of some of the bulk commodity products.

"In looking at our industry prospecta and our own position we concluded that our strategy should be directed, in the first instance, to continued exploitation of our strengths to an extension of our range of interests both in a geographical and in a product sense.

"For the first, a wider move

into Europe was an obvious choice. For the second we wanted to develop our product range—in move into higher added value products where we would be providing a more sophisticated technical service to a wider range of costomery

BP Chemicals sava that when it finally bought Union Carbide chemical interests, it immediately increased its involvement in "what might be described as speciality products such as the special grades of LDPE pro-duced at Antwerp."

The next five years are cerlain to see some clearly-defined changes of emphasis in the plastics industry, but the period is unlikely to be an easy one for the chemical majors. In the short term there will be no glittering prizes for those which make the transition from youth to malurity successfully. Yet the penalties for failure could

Place, Kensington, W. 12. Brady

Letters to the Editor

Accidents and bargains

From Mr. A. G. Horsnoil: bearing upon industrial wellare.

One important fault of free, collective bargaining." frequently overlopked, is the immense amount of union and management time taken up by preliminary and final negotiations in addition to all the discord and strike play which

takes place. l ani advised that leading industrial companies can spend six months a year negotiating, from start to finish, "free col-lective bargaining," claims. This compares with six to eight weeks settling Phase 1 and 2 "wages policy" claims locally.

All this negotiating effort for free collective bargaining reduces the remaining time available for management and unions to settle other employorent factors-like safer work-Recent UK industrial accident

Deaths Accidents 514"

Economic Adviser. Burge and Co., 25. Worship Street, EC2.

Employment fiction

From Mr. G. Bowcy Sir.—Mr. G. Bouley writes an September 12 regarding "Employment Fiction." With respect to him, this gentleman appears to be one of the few people in this country, with the exception of successive Governments, who is not well aware that the published unemployment figures bear little relationship to the facts—which is no different in . any government statistic.

A high proportion of youngsters are unemployable because Indifferent schooling and parents—we have an office girl. aged 174 and she did not know that Ireland is divided into two nor can she add up three sets are not interested in any job where they are unable to merge Pay day-indeed why bother at plenty of time to take a cusual job where they may well be

ment seems to matter little tions. men on the assembly thes can but this be seen attaching a component, tailed,

deteriorate. numbers of unemployed really unimportant.

Senior Portner. T S Associates and Compony. 105. High Street,

Fighting the real enemy

From the Chairman, Weir Pumps

Sir.-Your editorial of Scptember 14 concerning the touches upon the worst effect which is the adverse reaction of fureign customers made worse by the overvalued pound. Anyone who has had to travel widely abroad to convince customers that delivery promises etc. will be bonoured knows full well how badly our industrial disputés (nonsense?) have hurt British exports. And thus one economy and society.

Other countries can perhaps afford ignorance of what it's like to work in and deal with for-The good years. 1975, and have good industrial performance in force. The bad years to British Government. politicerespond with periods of constantly confirmed that these industrial strife."

A. G. Horsnail.

m mention their inability to read the foreign press. If they did then perhaps the unions would stop fighting management over the declining body of our country and realise that their overwhelming concern should be to combine interests and fight the real enemy-our tough and united competitors overseas. Perhaps they might also aound out their members at shop floor level who increasingly are becoming aware of this point.

Lucien Wigdor. Dunster House, Mark Lane, EC3.

Venture

Prom Mr. Michael G. Ayres Siz Recently there has been a great deal of lip service paid

into a sea of other people until clearing banks who rightly or wrongly consider themselves properly for a whole year and short term sources of capital, a half before the next major all when the country pays for short term sources of capital, their necessities and they have without the flexibility to meet plenty of time to the capital and they have without the flexibility to meet plenty of time to the capital and the differing requirements and nn the other hand you bave the "so. paid in cash with a nod and a called " venture capital institutinus whn in my experience are

AUEW which is instant upon crippling industry the assembly these can be the previous government, through it's various agencies, men on the assembly three can but this has been at least curbulation. The one source of truc venthen removing it then re-Latterly anyway, it seemed pre-attaching it of the re-Latterly anyway, it seemed pre-attaching it so that output can accunied with investing in high

be kept down thus shielding the technology projects or propping necessary last January, it was slackers. technology projects or propping necessary last January, it was up existing companies. slackers. up existing companies.

We have allowed our stan- All of these services are

dards in the country to be admirable but in my view they reduced ever since 1945 until do not support an area of tre-we are now a third class nation mendous need for the young From Mr. A. G. Horshott we are now a third class nation mendous need for the young managing to survive on past demands, year hy year, we are forgetting many other considerations, which could relieve the complexities of industrial life, and which have an important and which have an important of provide 3 good living their infancy. This sum is the investment made by a company cient to provide a good living investment made by a company —then we will continue to recrulting a middle-manager not sufficiently impressed by the deteriorate.

during his first year's employ rate of progress 1 have leteriorate.

In our present society, the ment, with none of the legal maicated?

> There is clear evidence to suggest 1 but this country works better in small units, bence our abysmal productivity record in recent years. The small business is efficient because people cannol hide as they can in a large company, and it would be too easy to point a finger at

some large organisations at the I am not sure what the answer should be-perhaps a scheme whereby large companies take on minority equity interest in small companies. The trouble with that is the small company will be "swallowed-up" by the

big company, if successfullurning a full circle! Where does the small businessman who is establishing an industrial trading company go to find bis capital? I wish I knew. Il would be very easy to give up and go back into industry as an employee but I think will persevere as "Maggie'

may come good! Michael G. Ayres, (Director), Portable Microsystems. Forov House. 18, Market Place. rackley, Northants.

Repair of the month

From Dr. Robin Corter

From Dr. Robin Corter
Sir.—Mr. Mullard (Sept. 8),
fails to display a proper appreciation of this country's progress in the last few years. A
mere eight weeks to repair his
dishwasher? If this happy
prediction is fulfilled, the manufacturer concerned will have
acted like gressed lighting acted like greased lightning compared with past performances. In days of yore, I once waited ten months for a simple and straightforward repair, under guarantee, to my £100 (1970) dishwasher, manufactured by the British division of an American company whose name is a worldwide household word. Like Mr. Mullard I eventually tried to get some action by a direct appeal to the company's managing director, and, like Mr. Mukud. I received the usual bland sympathetic and false assurances from both the Consumer to small businesses and the Relations" and the "Customer of figures. So far as adults are entirepreneur; my experience Service departments (they concerned, most of those suggests that there is no real must run in-house competitions between the ages of 18 and 40 venture capital available in the for these jokey names). Finally, are not the suggestion of the control of the contr on the one hand you bave the hat for the Repair of the Month, and the machine then worked

> fault developed. So let Mr. Mullard be duly thankful: Things are getting better! For my part, I confess that I lacked the patience and really expansion capital institutenacity to continue the struggle, and, rather than spend another indefinite period with a box of useless junk in the kitchen, I sold it for £10 and bought a well-known Italian dishwasher for £62 (new). This

Amalgamated Union Engineering Workers conference a fair price. But comparisons. continnes, Eastbourne. they say, are odlous, and one should not generalise from particulars (a lesson I learned long ago from Which? magazine,

where my first dishwasher was once rated a "Best Buy"...); unfortunately, to judge from Scarborough. trade statistics, the fallacy is

increasingly persuasive; per-baps many consumers are just Germany. United

Pension tunaing

Hamoledon, Hants.

Highbank, Speltham Hil!.

Koom Carter.

From mr. Rugmond Nottage Sir,—Mr. speeding states (September 12), in support in Air. Sullensmith, that the long term costs of musicing pensions would increase it a change were mane from the tunoed pasts to a pay-as-you-go approach "whener or not the fund earns a real rate of return."

This view seems to be contrary to that expressed by the Government Actuary's Department in their evidence to the Wilson Committee, part of which I quoted in my earlier letter. Tue Department's coucluding paragraph said :

There seems to be little doubt that, if It became the accepted view that a positive real rate of return was unlikely to be earned even in the long term, the system or funding as at present operated in the United kingdom could not long survive and would have to be substantially modified or replaced by alternative arrangements."

One must therefore decide whether the truth lies with Sbucksmith Spedding or with their professional colleagues in the Govern-ment Actuary's Department. Raymond Nottage. Reform Club, Pall Mall, SWI.

Undervalued

engineers From the Executive Director, Council of Engineering

Institutions Sir,-It is becoming commonplace that engineers in this country are undervalued and under rewarded. In case engineers are overstating their case, the table "Best Paid Managers in Manufacturing and Service Companies" which you published in your issue of September 13, provides striking

"Senior Development Engineer" is rated 30th out of 31 with a median salary of £6,600. which actually shows a reduc tion since last year. His extra earnings and other benefits are also revealed as significantly lower than those of most other managers.

A man or woman holding this position should be a Chartered Engineer with a degree and several years practical training and responsible experience. Is it surprising that the engineering profession is mable to attract enough bright young people to meet thte needs of industry? Is it possible that the performance of British Industry is at least partly due to the low value it places on those who design and develop its pro-

GENERAL UK: Zimbabwe-Rhodesia coostitutional conference continues, Lancaster House, London.

Engineering industry pay talks resume. Secood day of engineering workers national strike. Association of District Councils four-day meeting opens in

Royal Commission on Environmental Pollution publishes report on agricultural pollution. Overseas: President Pertiul of Italy starts five-day visit to West

Nations

Today's Events

Assembly meets, New York. EEC Foreign Ministers meet, Brussels.

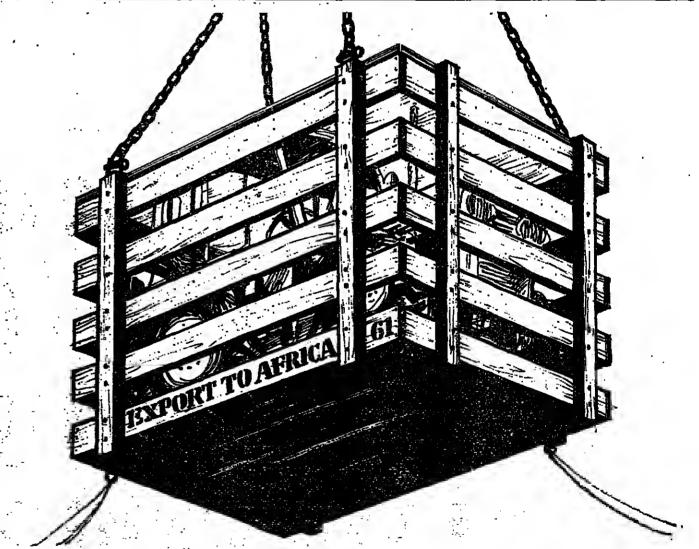
Department of Trade pub-lishes balance of payments current account and overseas trade figures for August. COMPANY RESULTS

ternational. Ricardo Coosulling Engineers. George H. Scoles and Co. Zetters Group. Joterim Second day of EEC Agricul- dividends: Eurora Holdiogs, Bank ture Ministers meeting, Brussels.

Budget presented to Dutch
Parliameot.

OFFICIAL STATISTICS
Department of Trade pub-Rosedimond Investment Trust. Royco Group, Willis Faber. Interim figures: Jardine Japan Investment Trust. L. Ryan Hold-

Industries, New Isilngton Works, Ancoats, Manchester, 12. Bristol Evening Post, Temple Way, Bristol, 12. Gresham Investment Trust, Barrington House, Gresham Street, EC, 12. Group Investors, 2. St. Mary Axe, EC, 2.30. Hazlewoods (Proprietary), Empire Works, Rowditch, Derby, 12. S. Leboff (Fobel), Hendon Hall Hotel, Parson Street, Hen-don, NW, 11. Moorgate Mercan-tile, Great Eastern Holel, Liverpool Streel, EC, 12. Polymark International. Jeddo Road, Shepherds Bush, London W, 3. to West Final dividends: Elder Smith ings. Shepherds Bush, London W, 3.
Goldsbrough Mort. F and C COMPANY MEETINGS Redland, Platsterers' Hall, 1 London Wall. EC, 12.15.



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Utd. Biscuits midway downturn to £16.1m

ALTHOUGH PRE-TAX profits of United Bisculis (Holdings) were down from £18.6m to £16.1m in the 28 weeks ended July 14, 1979. the directors are looking for a heller second half and say profits for the year are likely in he about the same as the 542.21m for 1978.

Sales for the 28 weeks rose from C362.78m to £402.84m re-flecting increases in the UK. North America and Europe hut a sales fall from the rest of the world.

Sir Heclor Laing, chairman, reminds shareholders that at the annual meeting in May he said the road haulage dispute had cost the UK company E3m in lost profits but that bunyant trading conditions since March had enabled some lost ground to recovered.

He now says that taking the group's heavy investment programme into consideration, he helieves the interim results should be considered satisfactory. Since the considered satisfactory.
Stated earnings per share are
Sn against 6.1p, but the interim
dividend is raised from 1.5p to
1.7p—the previous total was
3.006p.

The chairman says most of the trading hunyancy in the hiscuit company has been in chocolate lines but become a find the characteristics. lines, but because of shortage of capacity the group has been unable to supply all orders fully.

The foods company substan-tially increased its unit sales. porticularly of potato crisps. The frozen foods and fast food restaurant companies are fulfilling expectations but in both areas the group is investing heavily for the future and in-curring costs in the short term.

As was to be expected, sales of VAT-raied products were affected adversely when the rate was increased to 15 per cent. The four weeks of the first half year and it is too early to know for how long consumer resistance will continue, says Sir Hector.

In the U.S., the Keebler Company had a satisfactory half year in dollar terms and, had 1978 average exchange rate applied, sterling profits and sates would have heen 10.8m and £13m higher

respectively.		
	29 4	veeks
	1979	1578
	EOGO	E000
UK sales*	264,046	227,167
North America	124,526	121.673
Europe	12.494	10.833
Rest of world	1.773	3 111
Total sales	402,835	362,778
UK profit	11.572	14.883
North America	6,923	6.491
	339	518
Europe loss		
ficst of world loss	191	170
Trading profit	18.C65	20,686
Interest	1,935	2.051
Profit before tax	16,130	18,596
Tavalion	3.401	3,234
Net prolit	12.729	15. 30 1
" Including exports.	Atter d	colecis.
tion of £8.47m (£7.1m)		

The Spaoish company, Ortiz, which has been making very



Sir, Hector Laing, chairman of United Biscults, seen at the company's Harlesden factory.

years, achieved small trading profits in July and August and the chairman expects this improvement to cominue. See Lex

Squeeze on H. Cory margins

PROFITS BEFORE tax of Horace Cory and Co., chemical colour maker, were down climbric from £253,000 to fightly from £253,000 to £249,000 in the six months to Yuna 30, 1979. Turnover June 30, 1979. Turnover amounted in £t.37m, compared

The directors say the results must he regarded as satisfactory in view of the difficulties experienced during the road haulage strike. They add that profit margins continued to be squeezed by increasing costs and it would be rash to forecast the

First half tax takes £130,000 (£132,000), giving earnings per share of 1.27p, against 1.29p. The interim dividend is increased from 0.37p to 0.6p—last year's total was 0.75318p from pre-tax profits of £510,000.

Process plant industry faces

emsiderable tosses for several buoyant for general engineering products, contractors will have the advantage that in most cases they are not bardware manufacturers and will be able

to obtain the hest prices. But the review says that it is possible that the increased resources resulting from the sharp increase to oil prices will lead to renewed investment

Petrolane Inc. gets London listing

A listing bas been granted hy the London Stock Exchange for issued and reserved shares of common stock Petrolane Incorporated, a Califormian-based oil and gas com-

The listing is the company's first quote outside the U.S. Petrolane's main activities include the marketing of liquid gas, oil and gas drilling and servicing and food retailing.

For the year ended September 30, 1978 the company reported pre-tax earoings of \$90m (\$81in t. Current year net earnings are exnected to be about \$2,35 a share adjusted for a recent two-for-one stock split—an Increase of about a 6fth.

of anout a offin.

It is proposed that dividend payments equal to about 28 per cent of the prior year's net income per share.

Dealings in the shares begin today. They are being liced of

plant from the developed world will be at a low level next year.

While demand will not be well and Rowe and Discovery and Co. today. They are helng listed at the sterling coulvalent of \$48.75

HIGHLIGHTS

United Biscult's first half figures show a fall in pre-tax profits to £18.1m from £18.8m, but the group says that the haulage strike cut into profits by even more than the 13m previously reckoned for, yet the company expects to recover the shortfall in the second half. Lex also takes a look at the battle between Spiliers and Dalgety, considering the alternatives for the probability of the second sec for shareholders as the first-closing date approaches. Elsewhere sterling's renewed volatility is now beginning to have an impact on interest rates both in the money market and the gilt-edged market Lex comments. Figures from Simon, Ransomes Sims and Jefferies and Henry Sykes come in for comment inside and noles are also made on the results from Black and Edgington and Low and Bonar.

Low & Bonar rises 10% at six months

ELIMINATION OF unprofitable affected by the reduction of the lines in the UK packaging groups Nigerian shareholding to lines in the UK packagiog division belped lift the taxable

division belped lift the taxable surplus of Low and Bonar Group by oearly 10 per cent, from £4.07m to £4.48m, in the six months to May 31, 1973.

The directors of the packaging, engineering and texules concern say the slight fall in turnover 10 £70.55m £270.83m) was moinly due to the UK packaging rationalisation and the conversion of overseas sates into rationalisation and the conversion of overseas sales into sterbing. The strong pound effectively reduced Canadian and African profits by £188,000, they

add.

The profit, the directors soy, is satisfactory considering the effect of the transport strike, higher interest rates, and the fierce competition in export markets, especially for engineering—aggravated by the strength

of sterliog.

The UK proportion of group profit increased from 38.6 per cent to 46.4 per cent, they add. Tax took £2.08m. against £2.18m. The net interim dividend is stepped up from 4n to 5n per 50p share and includes 0.3655p for t978 following the tax rate change, Last year's total tax rate change, Last year's total tax. was 12.1605p, pald from record profits of £8.66m.

profits of £8.66m.

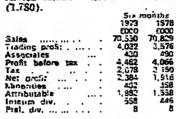
Packaging division profits advanced from £1.01m to £1.98m after the reorganisation and rationalisation programme. The UK surplus surged to £891.000 1£73.0001, while the Canadian profit was 37 per cent higher in dollar terms—reduced to £5.8 per cent on conversion to sterling. cent on conversion to sterling.

The slight decline in engineering profits - from £1.34m to beavy engineering areas. The strong pound was partly

responsible for the fall in textile then the fully taxed p/e could division profits, from £2.07m to stand at over 5—not 100 £1.79m. The surplus was also expensive.

40 per cent and the economic position prevailing in other parts of Africa, the directors say.

A geographical analysis of turnover and profits shows ith f000s): UK/EEC 45.899 (43.309) and 2,357 (1.709); Canada 15.915 t17,079; and 1.090 (94t); and Africa 12.714 (14.669) and 1.640



comment

The news from Low and Booar is quite respectable, but not surprising. The market has known about the group's worldrationalisatinn reorganisation programme for sume time and received word of higher progts oo lower turnover with satisfaction; the share price was lifted 3p to 17Sp yesterday. The company, which has a The company, which has a market capitalisation of around £t9.5m. is spending more than £6m on capital improvements in 1978-79. The deliberate policy of reducing the overseas share of profits is bearing fruit and this has helped to build up UK operations. Although sterling cut into first-half profits, it could be less threatening in future if the exchange rate continues on its present course. The interim £1.31m—resulted from the severe dividend is increased by 25 per competition in export markets, ceni, and a similar advance in particularly in the electrical and the final could yield over 12 per cent, an attractive return, if 1979 pre-tax earnings reach font.

Black & Edgington hit by higher interest charge

TRADING PROFITS of Black and the lorry drivers' strike, and and Edgington, the leisure and by the end of the first balf, profits workwear group, were little had slipped by 23 per cent. changed at £1.96m, but increased Caravan production was parinterest charges meant that the ticularly hard hit just before the pre-tax surplus fell from £1.54m lucrative summer season. On the to £1.18m for the first six months bigber at £35.24m.

The first quarter's trading was badly affected by the severe winter and the transport drivers' strike, but in the second three months most areas of the group traded satisfactorily.

ing manufacturing division, which last year incurred sub-stantial losses, will reach breakmanufacturing division. even this year.

Mr Robin Duthie, the chairman, says, it is not envisaged that trading conditions in the second batf will be easy and a continuation of high interest rates, together with a strong sterling exchange rate will tend to hold back profit recovery. The chairman points out that

the group has expanded fast in recent years largly by acquisition, and a considerable rationalisation of certain parts is under way. He is confident that a sound base for 1980 is heing tax of £354.000

t£400,000), net profits for the period dropped from £1.14m to ES25,000.

The net interim dividend is kept at 2.2p per 50p share, costing £413,000 (£401,000) and the Board expects to recommend a maintained final—last year's total was 4.9888p on £2.34m pretax profit.

comment

Unfortunately, this has coincided seeking to minimise the tax with adverse weather conditions tlability on their investments.

camping side there is an element of 1979. Turnover was £S.51m of recovery following the closure blgber at £35.24m. of a number of factories after the company lost a large export contract Overseas competition is still severe but here are now efforts to diversify into more specialised camping products. At raded satisfactorily.

It is expected that the campaignees of the camp company to reach last year's £2.3m pre-tax. At 70n up 2p, the prospective yield is 10.5 per conl.

Moneymax Plan

The United Kingdom Provi-dent has extended the henefits provided on its successful Moneymax Plan by introducing a new income option. Its aim is to enable the investor to draw a contract providing it has been in force at least 10 years.

The Mnnevmax Plan was introduced by UKP earlier this year to allow the investor to have the guarantees of a traditional with-profits endowment combined with the flexibility of a life assurance savings plan as markeled by the unit-linked life companies. This enables the investor to take tax-free capital sums at the end of the tenth Having completed a string of acquisitions, Black and Edgington is going through a period of retrencoment as it adjusts to its enlarged base. Infortunately this has coincided

J. HEWITT & SON

(FENTON) LIMITED

Manufacturers of domestic and industrial refractories, kiln furniture and electrical parcelain

INTERIM STATEMENT

The unaudited results for the half-year in 30th June 1979 and

Corresponding figures are as fo	Half-year to 30.6.79	Half-year en 30.6,78 (adjusted)	Year to 31, 12,78
Turnover	£'000 1,691	£1000 1,226	£'000 2,787
Profit before taxation Taxation]62 29	J10 23	311 101
Profit after taxation	133	87	210
Earnings per medinary share of S	p 5.9p	3.9p	9.2p

The company has a full nider book for both the home and export markets and I anticipate that the highly satisfactory evel of turnover and profits achieved for the first half of 1979 will enntinue for the remainder of the year. Your Board has authorised further capital expenditure in 1979 amounting in approximately £250,000 in extend the company's production capacity.

H. Sykes first half profit almost halved at £575,000

ALTHOUGH sales were margin-ally higher at \$10,42m against £10.24m, taxable profits of Henry Sykes, the pump, winching, pneumatic and marine equipment group, were almost halved from £1.01m to £375,000 for the half-year ended July 1, 1979.

A substantially stronger pound meant ilial the enmpany lost much of its competitive edge overseas and as a consequence, cornings have fallen in these

In addition, the empany encountered technical problems during the early stages of the new range of Sykes super univarpumps, which the Board is satisfied have now been increase.

Profitability was also affected by the initial trading inssest incurred by the company's new U.S. subsidiary, Jacger Sykes,

which had been anticipated.

The board expresses deep concern at the impact un business of the national industrial action by the engineering unions. Continued strike action is bound to affect earnin; and lead to a further loss of urders, it adds. As to the fidure, the board is confident that decisions to

new range of pulops and expand overseas markets for the expand oversess markets for the company's products were correct and will lead to success in 198p.

After-tax earnings per 25p share are shown halved at 3.7p (7.4p), but the interim dividend is maintained at 1.5p net—last year's total was 4p on ft.57m

(£2.08m) profits.
Associates' contribution for the half-year increased from £56,000 in £125,000. Interest charge was up from £175,000 to £241,000 and tax took £282,000 (£375,000).

When Henry Sykes became the first-half costs (start-up in the U.S. and teeth-first land only) stock traded by comment

DIVIDENDS ANNOUNCED

• .		Date	Carre-	Talal	Tutal
	Current	цſ	sponding	for	last
	payment	payment	dıv.	vear	vear
Albany Investment int.	0.55	Nuc. 6	0.45	_	1.34
Black & Edgington int.	2.9		2.2		4 99
	0.6	Oct. 24	0.37		กรร
Horace Coryint.	1	Nov. 16	=		2.73
Jos. Holtint.	12	Oct. 2	t ·		3.62
J. B. Hidesint	1.5	Jan. T	0.5	_	1.47
	1.45	Dec. 4	1.29	2.48	3.2t
Low & Ronar int.	°5	_	4	-	12 16
Minerals & Resources	:8	Nov.9	8	12	12
Ransomes, Sintsinl.	3.14	Nov. 16	S 3	_	\$9.87
Simun Englacering int.	4	Dec 3t	3	_	9.07
H. Sykes int.	1.5	Nov. 5	15		4
Tor Inc. Income	3.52	_	3 54	5.86	5 66
Uld. Biscuits int.	1.7	Jan 7	1.5		3.01
Citi. telecone.	•			haa	

Dividends shown pence per share not except where otherwise stated. Equivalent after allumine for serip assise. On capital increased by rights and/or acquisition issues. I Gross throughout 5 Includes additional 0.29p for 1978. I includes 0.3655p for 1978 after lax rate change. U.S. cents throughout.

M. J. H. Nightlingale to obtain may not recur but increasing a tall listing, in December, 1977, snarehulders must have expected more than the crosum of carnings which has proved their lot. The share price fell 5p in a new low of 600 yesterday on profits the level and amid signs that the group—badly hit by the en-gineering strike—will be lucky to make unite than ftm pre-tax is sume consolation. this year. Sykes has built up its overseas sales to almost half of the group tutal over the past few years and the cumhination of a strung pound and inwer urder levels in sume foreign markets, notably the middle east, has taken a slice out of margins.

competition and stagnant coo-struction activity do nut augur welt for the trading future. The new pump range will need to start performing well soun if. Sykes is to merit its prospective fully-taxed p/e of 10.5—based on: full-year profits of £1m. A main-tained final dividend would produce a yield 9.8 per cent, which

COWAN DE GROOT

At the annual meeting of Cowan de Groot. Mr. Derrick Cowan, charman, said that "trading was saltsfactory this year, and sales were up 25 per cent on the same time last year.
A number of possible acquisi-

Louis Newmark makes good start to current year

The current year at Louis in balli individual and system Newmark has started well and applications as inspection alds in given a reasonably stable many diverse industries, national industrial scene, the steady progress of previous years will be maintained. Mr. G. L. and new forms of display units Newmark, the chairman, says in

his annual report.

Despite the difficult year in 1978-79, the buard has pursued on aggressive policy of selection and application of new plant and machinery, improved general facilities and moved steachly into new fields with products based on modern technology.

In those factories engaged in procession machining of toolois, directors have blready introduced several types of suplisticated computer controlled machines as the introduced among which is the new West-land WC30 helicopter making flon to the capital investment use of updated sensors and their

In metrology the group has considerable strides in the ponents for applications which land Street, W. October 16 at application of electronic gausing are directed towards the use of noon,

RIVER PLATE REPAYMENT

River Plate and General Investment Trust has recently renaid \$500,000 of his 81m currency

CENTREWAY

Mr. A. J. Cross, chairmen of Centreway, told the annual meeting that some measure of progress in pre-lax profits for the current year was seen. But the engineering workers strikes have affected business in Attgust and September at the important subsidiary S. J. and E. Fellows.

UNITECH

Unitech announce that of the 3.386,594 new ardinary shares offered by way of rights, 3.287. phares 197.1 per cent) were jaken

King & Shaxson

Limited 52 Cornhill EC3 3PD Gill-Edged Portlolio Manager Service Index 17.5.79 Portiolio Il Capital Offer Bid

many diverse industries. Directors are currently working meeling Instrumentation.

The group is also actively engaged in the development and the early manufacture of devices in the field of tension transducers and associated electronte controls ainted at requirements in industries such as mining and paper processing.

allied electronics.

The enmponent divisions are

lelecoutmunicatiun. machine and general professional instructent industries. In addition they are engaged n nigeling the needs o

sophisticated defence systems and sub systems used by the armed services and organisations concerned with marine safety. In the year ended March 31, 1979, profits before tax amounted to £1.98m against £2.13m, the last six months being

adversely affected by industrial Merchanting shuwed an in crease over the previous year. The main contribution came from the improvement on the watch side and the chairman is

pleased that the growth is being maintained in the current year. Meeting, 143-149 Great Port-

① J.B. Holdings

The Johnston Group of Companies

Engineering and hydraulics, civil engineering supplies, civil engineering and road maintenance.

INTERIM REPORT

	to 30th June 1979	to 30th June. 1978	Year 1978 £	:
umover .	13,531,000	10,332,000	25,401,000	•
rofit before Tax	864,000	957,000	2,813,000	
rofit after Tax	415,000	460.000	1,771,000	
ividend per Ordinary Share	. 1.50р	0.50p	1.47p	:

Group order books currently at a satisfactory level.

Copies of the Interim Report may be obtained from the Registrer, Midland Bank Limited. Registrar's Oepartment. Cnurtwood House, Silver Street Head, Sheffield, S1 3RD.

VIBROPLANT HOLDINGS LIMITED

Another record year

The demand in the industry over the last few months has been very encouraging and I am pleased to report that the trading profits achieved so far this year are in excess of those achieved for the same period in 1978. Although the current economic situation remains uncertain, we feel that the strength of your Group and continued controlled expansion, will further increase our profits in the current year.

Airpac International and the portable buildings divisions have again increased their contribution to the Group's profitability, and with the outlet and support from the additional depots, progress should be maintained.

R. CLINNING, Chairman.

		
Results in brief to 31st March	1979	1978
•	£'000	£.000
Turnover	11,156	9,485
Profit before tax	3,172	2,609
Profit after tax	2,029	1.252
Earnings per share	33.83p	20.87p.
Asset value per share	138.23p	87.06p

Copies of the Report and Accounts can be obtained from the Secretary, Vibroplant Holdings Limited, P.O. Box 12, Harrogate, North Yorkshire

SIMON ENGINEERII Specialised machinery; process plant contracting; merchanting & storage

Profit before tax for the six months to 30 June 1979 is £7.252 million (£6.310 million in 1978).

The Directors have declared an increased Interim Dividend of 4p per Ordinary share (3p in 1978) which will be paid on 31 December 1979 to Ordinary shareholders on the Register of Members on 3 December 1979. As indicated at the time of the Rights issue, the Directors intend to recommend a total dividend of 11.33p per share in respect of 1979.

Interim Report for the 6 months to 30 June 1979 It is difficult to forecast ahead when so many uncertainties prevail, not least those that have an adverse effect on the competitiveness of British industry at a time when world trading conditions are sluggish.

We have not attained the very high level of orders in the first six months of 1979 that we achieved in 1978. However, our spread of activities stands us in good stead and the Board still expects reasonable growth in 1979.

		Six months ended 30 June 1979 £000	Six months ended 30 June 1978 £000	Year ended 31 Dec. 1978 1000
Turnover_		133,973	109,344	235,601
	rofit	6,352	5,584	.14,865
	ed companies	228	261	627
Interestrec	eivable less payable	6,580 672	5,845 465	15,492 1,114
Profit bet	ore taxation	7,252	6,310	16,606
Taxation Group Principal	associated companies	-3,079 -112	-2,588 -98	-6,834 -236
		-3,191	-2,686	-7,070
	er taxation terests		3,62 4 -230	9,536 -681
	ributable to ingineering Limited	3,785	3,394	8,855
tax credit Ordinary (equivale	ce — 6% (now 4.2% plus) paid 1 July 1979 — Interim 4p per share ent with imputed tax		19	
	5.7143p:1978 – 3 p nt to 4.47 7 6p)	994	621	
NOTES:				

. 1. The trading profit is after charging degreciation of £1,890,000 (30 June 1978 £1,229,000;

31 December 1 378 £3.191,000). 2. The figures for the six months ended 30 June 1978 and 1979 are unaudited.

effective rate for the full year. The 1978 six months' charge has been adjusted to reflect the eifecuve rate for the full year 1978. 4. There were no exusordinary items in any of the above periods and because of the uncertainty of future currency movements no assessment of exchange differences is made at the half year.
Exchange differences are also excluded from the comparative ligures — the full year figure in the

3. The charge for taxation for the six months in June 1979 has been based on the estimated

published Report and Accounts was minua £348,000. 5. A statement on the wages and conditions of our African workers in South Africa has been prepared in accordance with the White Paper (Command 7233) and will be available on request to the Company Secretary.

SIMON ENGINEERING LIMITED CHEADLE HEATH STOCKPORT CHESHIRE SK3 ORT

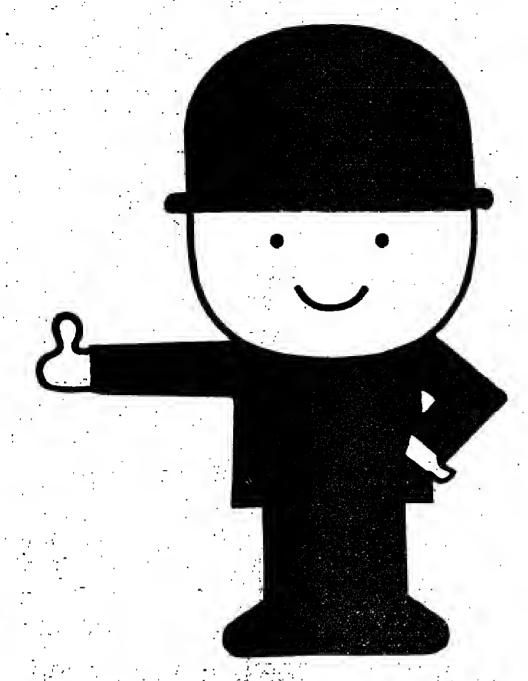
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If profit

1000 Car

M REPORT

This advertisement has been issued by Spillers Limited.





SPILLERS or DALGETY?

Spillers have forecast profits for this year at around £15m and have a good base for future profits growth.

Spillers dividend is increased by 67% to 3.4p per share.

Spillers employees, board and customers are opposed to the offer.

Spillers have built up a highly successful range of branded products which includes such household names as Homepride, Slimcea, Winalot, Kennomeat, Spratts and Tyne Brand.

Dalgety have not forecast profits for this year. Their profits are uncertain and could well fall sharply.

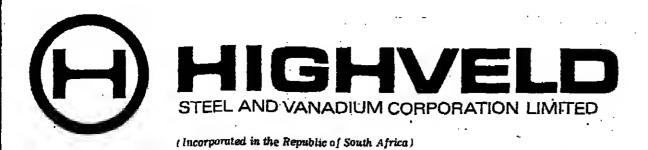
Dalgety's shares would give a lower income — equivalent to 3.33p for each Spillers share.

Dalgety's own board was not even united in making the proposal.

Dalgety have very few branded goods.

Your Chairman's message is clear.
Ignore the offer. Do not sign any document sent by Dalgety.

The Directors of Spillers Limited have taken all reasonable care to ensure that the facts stated and the opinions expressed herein are fair and accurate and they jointly and severally accept responsibility accordingly.



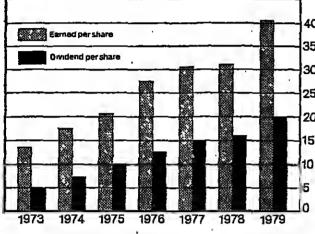
Pre-tax profits 55 per cent higher and exports set new record

From the review by the chairman, Mr. W. G. Boustred

The corporation's consolidated profit of R43 365 000 before taking into account deferred tax and minority interests was 55 per cent higher than the R27 976 000 earned last year. After deducting R14 656 000 for deferred tax and micority interests of R1 412 000 the attributable profit at R27 297 000 was 30 per ecot higher than the 1978 result of R21 001 000. The attributable profit for the year was achieved after providing for net interest charges of R6 104 000 and depreciation of R16 337 000 compared with R5 937 000 and R13 029 000 respectively last year. In view of these results your board decided to increase the final dividend to 14 cents a share, making a total of 20 cents a share, a 25 per cenl increase on the 16 cents paid last year. The total dividend for the year wilt absorb R13 553 000.

Earned per share

DIVIDENDS AND EARNINGS PER SHARE



The consolidated results of the group for the year include the profits of the Rand Carbide division for the twelve months to June 30 1979. This division was acquired in terms of the offer made to Rand Carbide shareholders in December 1978. It is worthy of note that all three operations, Highveld, Transalloys and Rand Carbide, achieved record profits for the year.

Due to the bigber profit and lower investment allowances resulting from reduced capital spending, the amount of R14 656 000 transferred to the group's deferred tax provision was significantly greater than the R6 009 000 transferred last year. The accumulated provision for the group at R53 575 000 should ensure that the charge for tax in later years does not absorb a disproportionate amount of the income earned in lhose years. In terms of the group's current forecasts, both Highveld and Transallovs will become liable for normal tax during the next financial year.

In April 1979 the corporation repaid the 20 million dollar bond loan, the third and last of the major foreign loans. The loan was covered by a forward exchange contract and the repayment of R14 343 000 was funded by raising local short-term finance.

The strength of the group's cash flow is illustrated by the reduction in the group's borrowings from RS2 943 000 as at June 30 1978 to R68 967 000 at June 30 1979 and an increase in cash balances of R7 928 000 notwithstanding the purchase by the group of Rand Carbide at R18 506 000 and capital expenditure for the year of R17 585 000. The group bas continued to use both local and overseas sbort-term financing in preference to longer term loans with resultant greater financial flexibility and a lower interest charge.

commitment had increased to R25 592 000 compared with R3 305 000 in 1978. The board approved R18 750 000 for the installation of a ninth prereduction kiln and an additional oxygen plan1 which will increase Iron, sleel and vanadium slag production by ten per cent by 1981. In addition R7 500 000 was approved for emission control equipment in the iron and steel works and at Rand Carhide. A further R5 500 000 will be required for this purpose in the new financial year and by the end of 1981 environmental control devices will have been installed on all production units at

At the beginning of the period under review, difficulty was experienced to marketing all the group's products because of adverse economic conditions both in the Republic and in the group's traditional export markets. As the year progressed, overseas markets for steel and ferro-alloys improved significantly and by the financial year end all the group's plants, with the exception of Vantra, were running

Group turnover of R268 411 000 was 55 per cent highe than last year and the total value of exports of R150 372 000 was a new record. It is pleasing to report that in November Highveld received the 1973 State Award for Outstanding Export Achievement in the Manufacturing Sector

Apparent steel consumption in 1978 for the world including the Communist Bloc increased by 5.9 per cent over 1977 to reach a new record level of 717 730 000 tons. This was mainly the result of record consumption in the Communist Bloc, Free World consumption being 5.3 per cent below the 1974 record tevel. Further world-wide growth of about 3 per cent is forecast for 1979 although Free World consumption to date auggests that the actual growth may be higher.

Ouring 1973, production restraint coupled with U.S.A. trigger prices. European reference prices and the weakening of the dollar, led to a substantial improvement in steel export dollar prices. This strengtheoing cootioued into 1979 but the uncertain outlook, in North America in particular, has led to conservative buying patterns which, coupled with an escalation in freight costs, have recently weakened the net for prices for steel exports. weakened the net f.o.h. prices for sleet exports. However, changes io steel coosumption tend to lag hehind movements in the general economy and therefore a major downturn to U.S.A. steel consumption is unlikely before 1980 and only at that stage is the world steel industry likely to he seriously affected.

Highveld exported to many countries a record tonnage of siee! products in the form of aemis, sections and plate, representing 43 per cent of total steel sales. Profit margins on steel exports showed a marked improvement over the previous year making a significant contribution to the group's overall profitability. In 1978 the South African steel industry's earnings from steel exports exceeded R360 000 000 which was a major contribution to the Republic's foreign exchange earnings.

South African apparent steel consumption in 1978 increased by 14 per cent compared with 1977, but as the growth was mainly in the form of strip used in consumer products, Highveld's local sales were only 5 per cent ahove last year's. A further increase of about 6 per cent is forecast for South African apparent steel consumption in 1979 and there are indications that the markets for Highveld's structural sections and plate are continuing to improve. The decision to extend Sasol II has given a much necded boost to the South African steel and engineering

Highveld's steel production reached three-quarters of a million tons, some S.5 per ceot higher than tast year's record, and it is pleasing to report that productivity continues to improve. Both rolling mills operated well and the total rolled products showed a 16 per cent increase over 1978.

The world-wide recovery in steel production brought about a steady improvement in vanadium demand through-

out the period under review. Higher consumption resulted from increased activity in the production of line-pipe and construction steels in the U.S.A. and of line-pipe steel for the USSR. In Europe and Japan vanadium-bearing tool steel production was higher and the replacement programme currently under way in the world's commercial airline fleets increased demand for vanadium-bearing jet engine alloys. The substitution of vanadium for molybdenum because of the molyhdenum sbortage, and resultant higher prices, also stimulated consumption. These favoorable factors resulted in record levels of demand io both the U.S.A. and Western Germany, the twn biggest vanadium consuming countries. The industry was able to cope with the increased demand without distortion of the market.

It is expected that vanadium demand in the year ahead will remain satisfactory not noly because of consumption for steel production but also because of plans in the U.S.A. and West Germany to increase stockpiles of strategic metals and minerals. It is worth repeating that the world vanadium industry has ample reserve production capacity in meet even the most optimistic demand forecasts. RAND CARBIDE

In December 1978: Highveld acquired Rand Carbide at a cost of R18 506 000 and in terms of the agreement the profits of Rand Carbide for the period July 1978 to June 1979 are included in the results of the group.

The Rand Carbide division, hased in Withank, produces ferrositiron, calcium carhide, Soderherg electrode paste, metallurgical char and other products associated with the steel and ferro-alloy industries, and its acquisition con-slitutes an extension of the product range of the group.

The division benefited from the improvement in worldwide ferro-alloy demand and by the second balf of the financial year the plant was operating at full capacity on all products, with the export price for ferrosilicon particularly strong. Sales of metallurgical char and electrode pasle to the Southern African ferroalloy industry strengthened significantly in the second balf of the year. In line with the group's intention to concentrate on ferroalloy production, the investment in the calclum carbide producer, Holland Electro Chemical Industries (Proprietary) Limited, was sold in May 1979 at book value.

The new division contributed 11 per cent to the group's earnings for the year compared with the forecast of 10 per

TRANSALLOYS

The export demand and prices for Transalloys' manganese and silicon ferro-alloys showed significant Improvementa throughout the year. As a result the plant operated at capacity for most of the year and both turnover and profit were at record levels.

Sales for the year increased by 81 per cent to R32 463 000 and exports represented 64 per cent of the total sales, compared with 59 per cent last year. The policy of continuing to strengthen the domestic base load in order to offset the fluctuations in export markets resulted in a substantial increase in local sales compared with the previous year.

For the second successive year the percentage increase in steelworks costs showed an encouraging reduction on the previous year, rising by 11 per cent compared with 17 per cent in 1978 and 28 per cent in 1977. The decision by the South African Rallways to maintain rallage rates throughout the year was welcomed and has made a major contribution to the lower rate of cost increases.

The increase in power costs at 5.9 per cent was considerably lower than that experienced over the past two years. In view of Escom's strong financial position, as outlined in their latest annual report, it is expected that power costs will show only modest increases in the next few years and this will greatly belp the South African steel and ferro-alloy industries to remain competitive in world markets where tariff barriers are still a major obstacle.

Certain other important cost elements, bowever. continued to escalate at a high rate, such as Highveld's metallurgical coal the price of which increased by 16 per cent in February 1979.

Important and far-reaching changes in the South African industrial relations situation have recently been proposed by the Wiebahn and Riekert Commissions. These bave come at a time when the South African economy is showing signs of recovery and the shortage of skilled persons is being increasingly felt.

The first report of the Wiebahn Commission has recommended that all employees, irrespective of race, be eligible for membership of registered trade unions, that individual trade unions be free to determine for themselves who should be admitted to memhership, that the Industrial Council and Committee systems be merged under one Act so that where both hodies exist they should be complementary to each other and that Government policy in respect mentary to each other and that Government policy in respect of apprenticeship be changed so that any person with the appropriate qualifications will be eligible to be indentured through the normal channels. In addition the Commission has recommended that a National Manpower Commission he appointed to advise the Minister on all lubour matters and that an Industrial Court he established with a wide range of judicial functions including the development by precedent of fair employment swidelines. precedent of fair employment guidelines,

In response the Government bas issued a While Paper accepting the general thrust of the Commission's recommendations and has made a number of amendments to the industrial Conciliation Act.

While the Government's prompt and positive response to the recommendations is encouraging, there is cause for concero in certain specific areas. EXPANSION

As mentioned previously the Board approved the installation of the ninth prereduction kiln in the iron plant and the erection of an additional oxygen plant at a total cost of R18 750 000. This will result in an increase of approximately 10 per cent in steel and vanadiom alag production. Plans are heing prepared for the tenth prereduction kiln which will complete the existing iron plant and should result in an annual steel output in the region of 900 000 tons by 1982. All the additional steel can be processed in the plate mill without any significant capital expenditure being required. ENVIRONMENTAL CONTROL

The Highveld iron and steel works were designed some fifteen years ago and when built were fully equipped with pollution cootrol devices. Since commissioning it has become increasingly apparent that these devices are inadequate, particularly in the light of significant advances which have since been made in the field and the group is which bave since been made in the field, and the group is now confident that the new installations mentioned earlier in the report will lead to a substantial improvement in

OUTLOOK The group starts the new financial year with all ils plants operating at a high level of production. However, plants operating at a high level of production. However, the recent developments relating to the price and availability of oil could have a scrious effect on the economics of the developed countries and in particular could deepen and lengthen a recession that may have already started in the U.S.A. It could also retard the recent improvement in the South African economy. All these factors would adversely affect the markets for the group's products. Such uncertainty makes forecasting difficult, but the sound start to the year should ensure that profitability is all least maintained and if the world economy maintains a reasonmaintained and if the world economy maintains a reasonable level of activity, there will be an improvement in the group's profitability.

The full text of Mr. Boustred's statement and the corporation's annual report are obtainable from Charter Consolidated 40 Holborn Viaduct, London ECIP IAI.

The ontual ocneral meeting of members will be held at 44 Moin Street, Johannesburg, on Friday, November 2, 1979 at 12h,00

'Bondy' spearheads A\$20m uranium move in South Australia

BY KENNETH MARSTON, MINING EDITOR

had promised to allow uranium Siller, who has a long association mining within the state, the with the trio. irrepressible entrepreneur. Mr. Alan Bond has spearheaded a had been advised that the Bond AS20m [£10.3m] fresh move on group would be available to work

Sydney. A group beaded by Bond Cor-poration, and Including Reef Oil, Basin Oil, Endeavour Resources and Leighton Mining has con-tracted to purchase 14 per cent of the capital of Oilmin, 17.5 per cent of Petromin and 8 per cent of Transoll, all of which are partners with Phelps Dodge of the U.S. in the Beverley uranium

deposit.
Mr. Bood annunced that it

AUSTRALIA'S mining and in-dustrial group, CSR has moved

22.5 cents from 16.5 cents

share, and announced that talks with CSR on a possible bid had

It was also noted that CSR was

It was also noted that CSR was considering its position. CSR already beld 49.9 per cent of Western Collieries, obtained since 1974 through placements by the collier and by market purchases. At the time CSR announced it was holding takeover talks, Western Collieries were priced at A\$4.50.

When the Collieries Board announced the termination of the talks, the price was up to

the talks, the price was up to AS\$ 20. Yesterday CSR entered the market and purchased the bulk of the 150,000 traded, mainly at A\$\$.74.

It is understood that CSR has

placed an order through the broking firm. Potter Partners for

Im shares, or about 15 per cent of the capilal, which would lilt its stake to about 65 per ceot.

Australia's Whim Creek Con-

solidated, the "Down-Under" exploration arm of Canada's Northgate Exploration, yesterday

announced a AS1.85m (£950,000) non-renounceable "rights" issue

to shareholders of approximately

3.7m new ordinary shares of 20 ceots each at a premium of

One new ordinary share is thus being offered at 50 cents (25.8p) for every three shares beld on October 10, 1979. Yesterday the London price of Whim

Creek was 70p.

The new shares are payable in full at 50 cents per share on acceptance which must not be later than November 9.

Northgate Exploration has indicated that well a well a well as well a

indicated that it will take up its entitlement of 1,166,666 new

shares.

However, Canada's Westfield
Minerals, another member of the
Northgate group and also a
major bolder of Whim Creek,
bas advised that it will not take
up its entitlement of 833,333 new

Westfield is taking this line

oo the understanding that the underwriters to the issue will

place these shares within Austra-lia and thereby partly fulfil the wishes of the Whim Creek board to increase the Australian con-

leot of the company.

30 cents per share.

Whim Creek

rights issue

dustrial groop. CSR has moved to the sharemarket to secure control of the Western Australian coal producer. Western Collieries following a rebuff of takeover talks ioitiated by CSR last momb, reports James Furth. The directors of Western Collieries at the weekend reported a doubling of profit to AS2.6m 1f1.34m), or 31 cents a share, and a lift in dividend to 22.5 cents from 16.5 cents a

CSR still chasing

Western Collieries

ESS THAN 24 cours after the panies. Preliminary discussions iocoming Liberal-Country party had been held with the chairman Government in South Australia of the companies, Mr. C. W.

South Australia's energy re-sources—this time uranium, reports James Forth from contacted last night for his re-

was intended to limit the purchase to a maximum of 25 per oxide with a good grade of cent in each of the three com-

action: be was reportedly cele-brating a sharp rise in the market price of all three com-panies in response 10 the election result in South Australia.

Based on yesterday's closing prices, the Bond group bas paid more than AS14m for its contracted purchases and would lay out AS20m if it reaches its 25 per cent target.

Beverley has estimated reserves of 35m lbs of uranium

Whim Creek gives no reazon

for the new issue. The company is actively involved in diamond

exploration in the Kimberley region of Western Australia and has interests in various basemetal and gold prospects in that

Attock link-up

with Metramar

BRITAIN'S Altock Petroleum is

to acquire a 10 per cent interest

in Australia's Melramar Minerals by taking 1.1m of the former's ordinary sbares at par 120

Attock will also have options over 305,000 Metramar shares at

a cost of 1 cent per option, these being exerciseable at 20 cents per share up to June 30, 1982.

Africa's Anglo American Corporation giant joined Metra-mar in 1972 as a major partner in the latter's ill-faled Blue Spec mine at Nullagine in Western

Australia. Blue Spec began life as an anlimony-gold prospect, then became regarded as a gold

antimony hope and ended up as a poor "spec" for all concerned

Altock, however, is interested in Metramar's oil and gas exploration. Lord Torrington, managing director of Atlock said: "Any involvement in oil exploration in Australia makes it

essential to have local partners. We yow forward to creating a

successful and profitable rela-tionship with Metramar."

Metramar has a 20 per cent stake in a Bass Strait exploration permit and has interests in con-

sortia with-farm-in arrangements

in the Surat and Georgica Basins in Queensland. Metramar

shares were around 111p yester-

It will be recalled that South

hree separate deposits.

Phelps Dodge, which has a 50 per cent stake with the three local companies jointly owning the remaining 50 per cent, would be responsible for providing loan funds to mine and develop the deposits and to construct a pro-

cessing plant on site: Transoil-Olimen-Petromin are also involved in applications for two leases in the oil and gas fields of Mercenie and Palm Valley in the Amadeus basin in central Australia, but problems in negotiations with the Aboriginal Central Lands Council over royalties bas prevented any development.

Mr. Bond said last night that the move was in line with the group's current intention of investing in energy resources.

The main attraction of the trio was the Beverley uranium deposits and the Mercenle fields. The latter venture was particularly attractive because of its close proximity to the Cooper basin natural gas and oil fields.

Mr. Bond attracted attention
in August last year when a consortium, substantially the aame

sortium, substantially the aame as that which has invested in the Oilmin group, purchased the Burmah Oll group's stake in the major Cooper Busin partner. Santos, for AS36m.

Bond acquired 37.5 per cent of Santos, 50.86 per cent of Basin, Oll and 66.96 per cent of Reef Oil in the deal.

in the deal.

The South Australian Government subsequently passed legis-

lation restricting the maximum holding in Santos to 15 per cent and the Bond group has been ordered to reduce its holding, although it is challenging the move through the courts.
The incoming Liberal-Country

day that Basin and Recf would call the balance of monies out.

standing on all partly paid This would involve the Bond group in payments of A\$2.39m in Reef and A\$3.2m to Basin. The directors of the oil companies said they were investigating the possibility of making part of the call payment tax rebateable in the hands of shareholders.

Minorco pays the same

AN UNCHANGED final dividend of (U.S.1 8 cents (3.7p) to maintain the lotal for the year to June 30 at 12 cents, is declared by the Angle American Corpora-tion group's Bermuda-registered Minerals and Resources Corpora-

tion (Minorco)
Ner profits of the investment company amount to \$34.4m (£18.1m) against \$13.6m. But it is pointed out that the respective annual results are not comparable because with effect from July 1, 1978, results of Zamangio Iodustrial Corporation have not been coosolidated owing to the fact that profits are owing to the fact that profits are not freely remittable from Zamhiu at the present time.

As a result of a merger between Inspiration Heldings and Inspiration Consolidated Copper, Minorco and Hudson Bay Mining and Smelting now equally own all of the common slock in Inspiration Consolidated Copper, Mining a talks that it has

Minnreo also stales that it bas recently negatisted a \$50m multicurrency term loan over 10 years with a consortium of inter-national banks. There is, how-ever, no mention of the much Party government has already related that it will not undo the Sanlos legislation.

Along with the Oilmin moves

Clydesdale Bank Limited



has been appointed Registrar of The Scottish Western Investment Company Limited The Caledonian Trust **Company Limited**

The Clydesdale Investment **Company Limited** The Second Great Northern Investment Company Limited **Glenmurray Investment Trust Limited** Glendevon Investment Trust Limited:

All documents for registration and correspondence should in future be sent to The Registrar Clydesdale Bank Limited Stock Exchange Services Department 30 St. Vincent Place Glasgow G12HL

Telephone 041 226 3014

Silvermines is doing well

IRELAND'S Silvermines continues its strong recovery with a net profit for the half-year to June 30 of Irish £335,218 com-pared with £138,225 in the same pared with £136,225 in the same period of 1978 when the year's total, after allowing for second-balf losses, was only £29,859. Earnings for the latest period amount to 3.98p per share and an interim dividend is declared of 1p. For 1978 there was an interim of 0.5p and a final of

1p. Tbe The performance of the Anglian Windows subsidiary remains strong, while the 25 per cent-owned Mogul of Ireland lead-zinc mine has provided a profit share of £252.152 against a loss a term are of £27194 How. a loss a year ago of £37,194. How-ever, because of lower metal prices, the mine is expected to nperate at a lower profit for the rest of this year.

Alusuisse of America, Inc.

the United States subsidiary of

Swiss Aluminium Ltd.

has acquired more than 95% of the outstanding Common Stock of

Maremont Corporation

The undersigned acted as financial advisor to Alusuisse of America, Inc. in connection with this transaction and as Dealer Manager of its tender offer.



The First Boston Corporation

August 16, 1979

BIDS AND DEALS

Spillers/Dalgety-the arguments still rage

BY RAY MAUGHAN

FIRING ONE of the last salvoes before its £70m share offer for Spillers first closes on Fridey, Dalcety has attempted to dismantle the income argument for

Dalgety concedes that sharebolders would receive a 2 per cent higher dividend by staying with Spillers as the situation stands, but the bidder states that it "intends to continue a progressive dividend policy," pointing out that its dividends have risen by 63 per cent since 1975, after allowing for inflation as measured by the retail price

Spillers' shareholders yesterday, Dalgety dnubts whether tha defender would increase its own distribution next year "in view of the hesvy capital expenditure programme the Spillers Board has announced and the forecast decline in profits of Spillers' con-tinuing activities."

The bidder ponts out that, in view of a forecast profit of "around" £15m for the current period, Spillers' profits "are lower than the profits earned four years ago." At that point, Spillers made £18.4m from con-

tinuing ectivities.

The document stresses once again the "substantial growth of Dalgety's businesses overseas" and points out that "in the four years since 1974-75 earnings per share and dividends of the Dalgety Group bave increased nearly threefold."

They supply scientific instru-

ments, chemicals and appartus, holding a number of important

version rights on £2.77m of Stewart Wrightson Holdings 71

per cent unsecured loan stock.

S. G. Warburg and Co. is now

beneficial owner of 5.53m Stewart Wrightson shares (30.49 per coot registared in the name

CAKEBREAD ROBEY

Clerk Hunt, a subsidiery of Cakebread Robey, has signed conditional contract for the possible sale of boxses end free-hold land to Fairviaw Estates

of Mercury Securities.

BOARD MEETINGS

The following companies have natified dates of board meetings to the Stack Exchange. Such meetings am usually held for the purpose of considering dividends. Official indications are not avoilable as to whether dividends are intorine as finale and the aut-divisions shown below are based mainly on last year's timerable. TODAY

	interims:—	
	Alva investment Trust Sep.	2
	Rasz and Waliace Amold Trust Oct.	
	arent Chemicals Sep.	2
	EC Coase	5
	Halt Engineering Sop.	5
	Legal and Genami Sep.	1
	Liverpool Cally Post and Echa Sep.	•
•	LIVE DOOR UNITY POST AND COME COP.	1
	London and Manchester Assur. Sep. Menzies (Jahn)	-
	Menzies (Jann)	-
	Metalraxaep.	4
	Metalrax Sep. Oil Exploration Sap. Owen Owen Sep.	3
	Owen Owen Sep.	2
	Ready Missel Concrete	Z
	Hotork Sep.	2
	Silkalana Lubricants Oct.	
•	Sumner (Fmncie) .:	2
	Tilbury Contracting Bap.	1
l	UDS Sap.	1
	. Cingles	
	Barlow Haldings Sep.	2
•	Chambers and Fargus Sep.	5
	Goodman Bros. end Stockman Sap.	5
	Ludachura Bleslaum	3
	Lydanburg Platinum Sep. Parker Knoll Sop.	Š
	Parker Knoll	-
	Scattish Metropolitan Property Oct.	

Dalgety states that it has formula of development of its substantial and profitable businesses.

CLUFF EXPANDS

Cluff states it bought the Graig shares as an Indirect way of intaining an interest in onshore oil and gas exploration in the South of England.

BRENTNALL BEARD

Shareholders of Brentnall Beard (Holdings), the insurance

broker, bave approved the sale

of business and certain assets of Brentnall Beard and Co. 2

wholly owned subsidiary, to Hogg Rohinson and Gardner Mountain.

Associated Deiries Group: Mr.

SHARE STAKES

Fisons has acquired Tosco of Steel Company, for A\$2.1m Melhourne and Townson and (£1.08m).

Mercer (Distributors) Pty of This doubles the size of the Sydney, which have a combined company's operations. in

Of new businesses and their inte gration into an efficient and effective whole, "should once again be applied following the merger with Spillers."

We have been planning a major UK expansion for Dalgety for a considerable time," the document edds, "We have the organisation and resources to maximose the very real abilities of Spillers' operating management. We have every intention of maintaining and developing Spillers' business."

of maintaining and developing Spillers' business."
Major institutional share-bolders, have been told by the Takeover Panel last week that they may not seek a collective meeting with Dadgety through a special committee set up by the National Association of Pension Funds, have been meeting on ar individual basis with the bidder's chairman, Mr. David Donne, and other members of the board.

Dalgety's sharebolders meet next Monday to approve the bid and Mr. Gordon Burwood, chairman of the committee, had talks with Dalgety last Thursday. In e statement last night, Spillers said that the Dadgety letter was highly mislesding, and again urged shareholders to ignore the offer. It claimed that

Dalgety's management bad "hopelessly inadequate experience" of the UK food industry, and that Spillers was poised for The purpose of Spillers' capital spending programme was to increase profits, the statement con-cluded. Dividends should follow

Simon Eng. first half profit and turnover up

FROM TURNOVER of £133.97m gress in the second half and, for against £109.34m, profits before the time being, the process plant tax of Simon Engineering contracting operations are unimproved from £6.31m to £7.25m affected by the engineering discontractions.

Last year, a total dividend of 9.0652p was paid from pre-tax profits of £16.61m. The directors say that although the group did not reach the very high level of orders in the first half that were echieved in 1978, the spread of activities stands the group in good stead and reasonabla growth is still expected this year.

Main activities of the group include specialised machinery, process plant contracting, mer-

_	CHADODE SOO PINISE	Ç.	
7		Six m	ant
9		1979	106
t i		6000	ě
	Tumover	133,973	100
: 1		100,873	100
2	Tmding profit	6,352	
	Associates profigte	228	
a I	Interest	672	
1	Profit before tax	7,252	4
	Tex	3,191	
ı i	Not made	4,061	•
	Nat profit		•
1	Minarities	276	2
11	Attributable	3,785	ē
- 1	Prefemnce dividende	19	
1	Ordinary-intarim	994	
t (C.C Martin III		
- 1			

comment

A warning that Simon's first half orders were down on 1978 levels might, when coupled with the effects of the engineering strike, signal a profit shortfall this year. But, with the exception of the process plant contracting division which enjoyed remarkably buoyant conditions last year, the group is shead of 1978, so far even if nrders have failen behind budget. The upshot is a near 15 per cent pre-tax improvement on a 22 per cant rise in interim turnover and that takes in little or nothing from aconsistions. Unichem was only acquired last March, Krause is too small to he significant, Allen and Garcia is breaking even and the UK end of Gordon Johnson Stephens is still proving trooblesome. The merchanting and storage division

improved from £6.31m to £7.25m affected by the engineering dis-in the first six months of 1979 pute. The proceeds from the and the directors are lifting the May rights issue will boost interim dividend by 1p to 4p per interest receivable and Simon share. may he on course for £17m before tax in 1979—given the usual second half bias—which would indicate a p/e of 8.6 at 260p, up 3p yesterday. The yield on the promised dividend is 6.3 per cent—that looks about right.

Amalgamated **Industrials** profit increase

Pre-tax profits of Amalgamated industrials increased from £1.28m to £1.45m for 1978 on turnover of £13.65m against £13.03m. At halfway the group, wholly-owned by Seton Trust, had advanced from £782,000 to £810,000.

Pre-tax figure for the year was struck after development expenditure of £287,000, compared with £270,000, and was hefore tax of £1.22m (£887,000). The attributable balance came through et £292,000 (£224,000) after an extraordinary credit of £122,000 (£133,000 debit), and

Car Care group linked with Lloyd's

Leading mechanical breakdown insurance specialist, tha Car Care Plan Group, announces that it has linked up with Lloyd's of London for the underwriting of its various mechanical breakdown insurance contracts, At the same time, the group has extended its cover to fleet-owned cars, including those

Ransomes Sims slips midway

and gives warning on year-end

Six mooths tax takes £240,000

against £260,000 leaving net profits down from 51m to £948,000.

There was an extraordinary

credit of £35,000 for the

operated by leasing companies, an area that until now has been excluded from most sources of extanded-warranty protection. Car Care Plan offers insurance cover to fill in the gaps left hy the motor manufacturers in the warranties provided against mechanical hreakdown in cars. The company has extended this to breakdown cover beyond the period covered by the manufac-

threr.

This insurance is now available for every sector of the new and used car market from the year-old company limousine to the high-mileage family car changing hands after many years.

The mechanical breakdown insurance provided by the group will pay up to \$350 per claim. will pay up to £350 per claim for parts and labour, plus up to £70 for car hire and £30 for towing in. The premium charged for this cover is £47.50 per car and applies irrespective of the number of cars included in one contract.

Radio Rentals moves ahead to £35.68m

Profits hefore tax of Radio Rentals (Holdings), a subsidiary of Thorn Electrical Industries, moved ahead from £31.23m to £35.68m for the year ended March 31, 1979, with £18.86m against £16.83m coming in the first six months. first aix months.

Turnover for the year rose by some £17m to £140.94m. Profits were after depreciation charge down £3m at £5.58m and hire of

TV sets from immediate parent company of £28.08m (£22.55m). After tax of £17.27m against £14.93m, net profits were up from £16.3m to £18.41m.

The group is engaged in rent-

ing and selling television and radio sets and the distribution of radio and television programmes

Ransomes. Sims and Jeffries will have to run very hard to main

have to run very hard to main-tain profits this year. Caught in the cleft stick of insufficient production in the areas where it can sell freely and facing high stock levels in markets which have weakened, the group has been jammed further up the fork

by adverse exchange rates and, more recently, by the engineer-ing strike. To add to all of this.

Dorman Sprayer has suffered hefty first-half losses and group

per cent. Interim turnover

improved hy over 14 per cent hut

both sales and trading profits would beve been "meterially higher" bad it not heen for an internal industrial dispute

earlier in the year. At this point

it is difficult to determine just

what the domestic dispute cost and how badly RSJ will be affected by the national strike.

The acquisition of Dorman presumably argues for some

capacity rationalisation in the

farm machinery division which, in 1978, was principally responsible for a 31 per cent rise

in monatary stock values. Action,

so far unspecified, bas been taken to cut overhead costs but the full benefits are not expected until next year. The sbares,

baving been trading near the annual low, fell further yester-

amular low, fen in their yester-day by 5p to 138p. All that might reasonably be said at this stage is that the historic yield of 10.3 per cent accounts for many of the problems the group now faces, as does a minimum fully

taxed historic p/e of 6.1, although the correction may have

profits have fallen hy almost

comment

Jentique rises to £573,000

(Holdings), furniture and clock maker, improved from £245,564 to £280,196 in the second six months ended June 30, 1979, giving a full year figure up from £403,764 to £573,153. Turnover rose by £2,83m to £11.9m. The directors state that improved husiness is expected towards the Christmas period, but the scale is difficult to

quantify. They said that treding conditions will remain very competitive, but they are confident that the products of both manufactures with the products of both manufactures. turing subsidiaries, backed by substantial current investments, will maintain their market

Tax takes £169.786 (£103.718) and earnings per 25p sbare ara shown ahead by 1.3p to 5.1p. A final dividend of 1.45p raises tha total payment from 2.209p to 2.47995p net. Comparatives have been restated to take account of changes in accounting policies.

English and Scottish rises Revenue at English and Scot-tish Investors was £60,248 higher

Stated earnings per 25p share the net asset value at half-time reached 103.9p (98.9p). A met interim dividend of 1p (0.6p) has aiready been declared. Gross revenue was up from

Jos. Holt rises to

£444,810 PRE-TAX profits of Joseph Holt, the Manchester-based brewer and wine and spirit merchant, increased from £38,901 to £444,810 in the first half of 1879. For the whole of last year, the surplus reached e record £802,505.

After tax for the half-year of £231,300, against £197,000, net profit came through ahead from £181,901 to £313,510. The interim dividend is doubted to 2p gross—last year's total payment was 3.62358p gross.

Bad winter and start-up costs hit J. B. Hldgs.

PROFITS BEFORE tax of J. B. Holdings, the construction and mechanical engineering group, fell from £957,000 to £864,000 in the first half of 1979. Turnover was higher at £13.53m, against £10.23m. The directors say the profit

reflects the bad winter which hit the results of the civil engineer-ing, road maintenance and civil engineering supplies companies.

In addition, the results include the starting up costs related to the group's investment in factories to produce concrete and Armaño glass reinforced resin pipes in Jordan. Both these ventures are now operating profitably with good order of £2.8im (£2.7m).

Orders from bome and overseas markets.

The net interim dividend is blosted to 1.5p (0.5p) per 10p of share. The directors say a decision on the final will be made in the light of the year's results. Last year's total payment was 1.47p, paid from taxable profits of £2.8im (£2.7m).

After tax for the half-wear of

greater value of work in the UK. The road surfacing and road-stone companies have good order books and should have success-The group has recently received two significant overseas contracts for Armafio pipes, and the engineering companies con-

tinue to achieve e good level of orders from bome and overseas

prospects.
Order books 'are currently satisfactory, they say, The civil engineering company has obtained two further contracts per share are given as 3.65p, overseas and is securing a against 4.31p.

The Post Office Prestel Service and Pye TMC With the introduction of the first business Prestel service in the London area imm 11th September Pye TMC Limited is offering their purpose-designed business terminal VISA, to receive the wide range of information now aveilable from the Past Office Centre. Fnr cantinuous demonstrations of VISA pay a visit to BERRY'S RADIO, the well-known hi-fi and TV shop at 319 High Holdorn, London WCI. Fully approved by the Post Office for connection to the Prestel service. Pye TMC Limited, Swindon Road, Malmesbury, Wilts. Tel: Malmesbury 2861

Federated Land up to £0.47m

WASHINGTON-SEC officials Earlier this year, Mr. Barold

Mr. Williams today acknowledged that the agency had missed the August deadline but said that prospects for ending Tha estimate of Commission action on the moratorium by TAXABLE PROFITS of Federated Land and Building Company rose from \$420,000 to plant and fittings installed in an investment property.

The extraordinary credits of company lass started the development of the new Central Shopping Area for E471,000 in the first half of 1979.

The extraordinary credits of company lass started the development of the new Central Shopping Area for E471,000 in the first half of 1979.

numped from £54,000 to £398,000. tax no longer required; and a Mr. James Meyer, chairman, £448,000 net surplus on disposal

of the company's commercial This will have e sizeable developments is carried out impact on the second-half profit, during the next six months, it hs adds. But the directors hope will reveal that the net asset the surplus for the next half value will exceed £12m, will not be lower than that The net interim dividend is schieved in the first six months. stepped up from 0.8p to 1p-last For the whole of 1978, taxable year's total was 2.73p. Earnings profits were £923,000.

Partial was 2.73p. Earnings per 25p sbare are shown to have

complete in two-and-a-balf years.
Construction is expected to atart
next year of the Town Centre
Shopping Scheme for Hanley. The chairman says that while

tha policy to reduce the dependence of house huilding for profits is being carried out. the company is committed to building houses as part of its overall long-term strategy for continuing growth. The com-pany has land stocks for at least six years' development and in seeking further sites in selacted

1978 £000 5,720 744 54 378 420 — 228 192

RESULTS AND ACCOUNTS IN BRIEF

ALBANY INVESTMENT TRUST—Grees revenue helf year anded August 31, 1979, E33,031 (187,520). Interm dividend 0.550 (0.450). Asset value 43.350 connes, columbite 215.75 tonnes. Seven months to drust Tin 169.90 tonnes, columbite 215.75 tonnes. Seven months to drust Tin 169.90 tonnes, columbite 215.77 tonnes. Call division sales output for August (figures in metric tons). Republic of South Africa: Situminous: Anglo (196,570). Before tax 167,154 (196,570). Be

(£15.79m). Meeting, Great Eastem Hotel, EC. October 8, 12.15 pm.

TOR INVESTMENT TRUST—Total 1998, 684,310 (5576,155). After tax £171,970 (£155,039) not profit £314,702 (£274,895). Final dividend 3.5175p (\$.6625p) on income abores, dividend 0.5825p on capital abores—total dividend about £273,730 (£237,353). Net asset value 58.4p (\$9.33p) per income abore, and £33,058p (£50p) per capital abore.

WHITWORTH ELECTRIC (HOLDINGS—Turnovar for year to March 31, 1978, £10,577,298. Net profit £180,521 after all charges and tax of £205,878. Eastings per share 4.58p. Dividend 2t per cent. Pay Occamber 17.

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and Extel 1 Pudding Lane, London, E.C.3.



The Chairman, Mr. Geoffrey Newmark, reports:- As forecast, the last six months of the year were adversely affected by industriel disputes. However, by good husbandry we were able to some extent to minimise the adverse effects of these end as a result our profits show only a slight drop nn our record previous year.

 In view of the difficult year from which we have recently emerged you should know that during this period we have pursued a policy of new plant selection and application, improved nur general facilities, and moved steadily into new fields with products based nn current technningy. We have already introduced several types of snphisticated

computer controlled machinery as an introduction to our capital investment programme. In the field of metrology we continue to make considerable strides in the application of electronic

gauging in both discreet and system applications as inspection aids end are currently studying the use of micro processors and other forms of display units

 We are currently developing both helicopter and fixed wing control systems for new aircraft making use of

updated sensors and their alfied electronics. Your Components Divisions are designing and developing components for applications which are directed towards the use of micro processors and to meet requirements in the computer, telecommunication, business machine and general professional instrument industries.

The analysis of the Group turnover and profit shows in the case of merchandising an increase over the previous year. The main contribution came from the improvement an aux Watch side which was as a result of steps taken by the Board end I am pleased to report the growth is being

mentained in the present year.

Mr. J. D. Price succeeded Mr. D. D. Rothschild as Managing Director of the Group on 12th September, and Mr. M. C. Martin succeeded my brother Herbert as Deputy Chairman. On that day also Messis. W. H. Arkinson, H. Collomosse and R. E. Hunt joined the Board of Directors: Mr. H. A. Lewis retired as e Director but

Salient Figures:	197	9 (£000's)	1978	(£000's)
cettes (1.80102)	Profit	Turnover	Pro!it	Turnove
Manufacturing	1,420	18,009	1,690	16,888
Merchanting	559	8,534	437	5,857
	1,979	26,543	2,127	23,745
Profit after Taxation	923		1,009	· · · · -
Ordinery Dividend per share	9.00p		6.72p	

Copies of the full report can be obtained from the Secretary.

ucastar Road, Croydon CR9 2LD

Interims:—Aurom, Bank of Bootlond, Bodycots International, Corinthion Haldings, Ibstock Johnosa, Inversek, Law Land, Barmard Matthaws, Rolls-Royce Motors, Rosedimond Investment Truot, Royce, Willis Feber.
Finels:—Elder Smith Goldsbrough Mart, Mills and Allen International, Ricardo Cansulting Engineers, Georgo H. Schales, Zetters.

FUTURE DATES	
interims:—	
Alva Investment Trues	Sep. 27
Rem and Maliace Amold Trust	Oct B
Arent Chemicals	Sen 26
EC Consession animal dimension	Sec. 21.
C. C. COSOS IIII I III I III I III I I I I I I	30p. 21.
Halt Engineering	SUP. 21
Legal and Genami	Sep. 19
Liverpool Cally Post and Echa	Sep. 20
London and Manchester Assur. Menzies (Jahn)	Sep. 19
Menzies (Jahn)	Oct 10
Metalrax	Sep. 24
Oil Evaluerian	San 19
Oil Exploration	Sec. 27
OWEN OWEN	Ban 27
Ready Mixed Concrete	Sap. 2/
Rotork	Sep. 28
Silkalena Lubricents	Oct. 1
Sumner (Fmncis)	Sop. 27
Tilbury Contracting	Bsp. 19
UDS	Sep. 19
Cinales	
Barlow Haldings	Sen 26
Denow Holdings	Cap. 20
Chambers and Fargus	aup. 24

Fisons Australian acquisitions Carlton Industries: Mr. L. Roy-don, director, disposed of 80,000 ordinary shares reducing his interest to 1,657,656 (6.26 per

> Comet Radiovision Services: Mr. W. J. Mason, director, dis-posed of 30,000 ordinary shares reducing holding to 219,000 (0.81 per cent).

nents, chemical holding a number of limposition and the branch offices, service and distribution centres in all States. The acquisitions are the first stage of Fisous' plan to expand its scientific equipment interests in South East Asia and Austral plag. On September 12 Outwich in South East Asia and Austral investment Trust disposed of its holding of 25,000 ordinary and 10,000 "A." Clust states it bought the carest in on Goodyear Tire expects third

quarter loss AKRON — Goodyear Tire and Rubber will report e loss for the third quarter because of provisions for the planned closure of two of its nidest plants, and the depressed car tire market.

In the 1978 third quarter, the company earned 62 cents e share. In the first half of 1979, it earned \$1.40 a share.

In August, Goodyear announced plans to phase ant Goodyear operations at its Los Angeles tyre plant and a subsidiary tyre plant in Conshohocken, Pennsylvania, over the ensu-mg six months to adjust capacities to the declining bins tyre market.

It said that the third quarter results will include the provision covering the closing of these plants, but did not give any estimetes of what the provision will be.

Mr. Charles J. Pillied, Jr., chairman of Goodyear said earnings for the third quarter earnings in the third quarter were also affected by a five week strike by the United Auto Workers union against the corporation's aerospace

facility in Akron. Despite the easing of the gasoline situation in recent manths, motorists continued to be concerned about the price of gasoline and the supply uncertainties," Mr. Pilliod said, adding that this has been reflected renewal tyre purchases.

He said that the decline in sales and productions of new cars, stemming from the manufacturers inability to supply the small cars which are in demand, has also effected the sales of original equipment tyres. Reuter

SEC options moratorium

said the securities industry is making progress on options rules sought by the Commission, hut the SEC's options mora-torium will probably continue to the end of this year.

Williams, the SEC chairman indicated that the moratorium on the expansion of options trading could be lifted by August. the moratorium remain good.

year end was offered by Mr. Douglas Scarff, an official in the SEC's division of market regulations. He said that the stock exchanges are currently seeking to develop rules governing options sales practices as well as develop improved procedures for policing options trading.

INCLUDING A £199,000 loss for duction is being cut back to up to 88 per cent over the next the period from Dorman Sprayer, balance stocks. taxable profits of Ransomes, taxable profits of Ransomes, Sims and Jefferies, machinery manufacturer, fell slightly from, £1.27m to £1.19m for the first half of 1979. Turnover rose £2.47m to £18.75m. In order to maintain profit margins, steps have been taken but the full effects of this action to materially reduce overheads, will not be apparent until 1980,

And the directors say that the effect of the current national engineering dispute, together with the strengthening pound's effect on exports, and on imports hy competitors, has been seriously to erode their expecta-tion of improved profits for the

full year-Surplus for the whole of 1978 was £2.57m (£2 25m).

Half-yearly earnings per £1 share are sown as 17.4p (18.5p), and the interim dividend is raised to 3.14p (3p) net. Also announced is an edditional payment of 0.29p for 1978, on the reduction in ACT, which

boosts that year's total to 9.87p. Despite the loss et Dorman, the directors say that sales and profits of the group would have been materially bigher had it not been for strike action earliar in the year at domestic level, which has now been resolved. .

Sales of professional grasscutting cutting machinery, which accounts for 50 per cent of group turnover, have been limited primarily by tha company's mability to achieve planned production lavels.

Action is being taken, the directors state, to increase ontput in those companies where demand continues at a high level. demand continues at a high level. Ransome's intends to acquire, However, in certain others, pro-

Al the time of the Dorman acquisition the directors were aware that the company was not operating on a profitable basis, but recognised it was an important area of activity in which the group should be engaged. They say the period sinca acquisition has coincided with a time of lower demand for farm machinery, however they are satisfied that the action which

has been taken since acquisition —to develop new products, to rationalise production facilities and to reduce overheads - will ensure a satisfactory future for this company. On September 7 the group acquired 16 per cent of the shares

of Wiscoosin Marine giving it a total holding of just over 50 per cent

but borrowings are rising

after sharply higher interest of 22.18m have been transferred to 2735,000 against £378,000. Net geograf reserves. These comprise rents from investment properties 8 £1.71m provision for deferred 8 £1.71m provision for deferred 1.500 and umped from £54,000 to £398,000. says that, with the company of the company's interest in actively increasing its long-term three of its smaller commercial investment in commercial developments, its borrowings are rising. This, together with additions to general reserves higher interest rates, will substantially increase the interest fidant that when the revaluation of the company's commercial company's commercial.

to be written-off. For the half-year there is an

risen from 1.8p to 4.4p.

Commenting on commercial developments, the chairman says this year sees the completion of the Out-of-Town Shopping Centre in Kent, which is trading exceptional credit of £77,000, representing the suplus on sale of land less tax. The sharply this lower tax charge of £81,000 the

NORTH AMERICAN NEWS

Chemical plant plan by Petrofina

By Our Montreal Correspondent PETROFINA CANADA, 72 per cent owned by Petrofina S.A. of Belgium, is considering construction of a C\$15m (U\$\$12.96m) polystyrene plant next to is Montreal refinery. It would have a capacity of 35,000 metric tons a year and be operated by a Canadian subsidiary, Finachem Canada, which is 51 per cent owned by Petrofina Canada and 49 per cent by a U.S. unit of the parent Belgian group. Petrofina Canada expects to double its earnings to about C\$5.25 a share for 1979 from C\$2.37 in 1978. Operating revenues will be about CS725m AP-DJ adda: Mr. Pierre Nadeau, chairman of Petrofina Canada, said that analysts' estimates that the company will earn about C\$5.25 a share this year-or more than double the \$23.7m in 1978 are "conserva-

tive."
"Unless the roof falls in, we'll make that target easily," he said. He also indicated that operation revenues will climb to about C\$725m from C\$591m

In the first balf of this year, Petrofina Canada's net was C\$31.4m or C\$3.13 a share on revenue of C\$365m—a jump from the C\$8.3m or 83 cents on revenues of C\$286m in the yearago period.

Elaborating on the Montrealbased integrated oil company's recently reported acquisition of a 5 per cent interest in tha syncrude oil sands project, Mr. Nadeau said that the C\$185m acquisition from Alberta Energy doesn't at the moment change our interest in the Alaands project " in which Potrofina Canada bolds an 8 per cent interest.

Rejection for IBM request

NEW YORK-The Federal Appeals Court bas denied a request by Interoational Business Machines Corporation for a temporary stay in an anti-trust case brought against it by the Justice Department.

The court denied the request pending its decision on a motion by IBM to remove Judge David Edelstein, who is presiding over the mammoth anti-trust case io

Federal District Court.

IBM has filed a motion with the Appeals Court, stating in Court papers that it wants Edelstein removed for allegedly showing bias and prejudice towards the company.

Quebec refuses aid for closed ITT Rayonier mill

BY ROBERT GIBBENS IN MONTREAL

THE QUEBEC Government has pulp (used in rayon production the mill workers. About 1,300 declared that it will not go to mainly) in the early stages, the the aid of Rayonier Quobec whose mill at Port Cartier, 650 miles north-east of Montreal. bas been sbut down because of beavy operating losses and a strike which has lasted since the beginning of June.

Rayonier Quebec is whollyowned by ITT Rayonier of the U.S. The mill, plus woodlands development, cost nearly C\$400m, and was opened in 1974, Because of labour and technical problems, plus poor market conditions for dissolving

operation bas accumulated losses of around C\$300m.

The Federal and Quebec Governments together have a direct investment of about C\$40m in the mill, and the Quebec Government, through its own forestry development com-pany, Rexfor, has about C\$20m in equipment leased to the mill on which repayment does not start until 1998.

The Canadian paperworkers' union has called the shutdown blackmail" and has urged the talks with the union covering lower St. Lawrence.

work in the mill and woodlands. The union also urged the Quebec Government to consider taking over control of the mill.

However, Mr. Yves Berube. the Lands and Forests Minister, said the shutdown was a "business decision" by ITT Rayonier and the Government will not consider a takeover or special help. The Port Cartier mill was a project promoted by the previous Liberal Government in 1971 and supported by the Federal Government to provide "blackmail" and has urged the moro jobs and economic activity company to re-open contract in the north shore area of the

Deere to lift spending abroad

BY OUR FINANCIAL STAFF

DEERE AND CO., the farm sales outside the U.S. are very equipment group, said it will hit by a drop in demand and spend \$350m on new overseas rising costs. A month ago the company announced that \$160m spent in the five-year period ending October 31. The company made the announcemet in a statement marking the introduction of a new line of German-built tractors. It said the nine nine tractor models, ranging from 35 to 100 bp, represent ao investment of \$40m and are the foundation of its overseas marketing strategy.

The decisioo comes at a time wben retail farm equipment

BY OUR FINANCIAL STAFF

An administrative law judge

for the Commission ruled that

the company's activity in the \$600m a year titanium dioxide

plement market was not "un-

fair within the meaning of the

Tratte Commission

was dismissed yesterday.

Judge dismisses FTC

charge against Du Pont

A FEDERAL Trade Commis- tion, accounts for over 40 per

sion allegation that the Du cent of the U.S. production of Pont chemical company had titanium dioxide. The substance

monopolised an important is used as a brightening agent sector of the pigments market for paint, plastics and certain

sales outside the U.S. are being be used to expand tractor capalosses totalling \$12m in the three months to July 30, restricting overall group profit growth to 161 per cent. Group net earnings in the

three months was \$96.97m compared with \$83.06m for the same period in 1978. It took net earnings for the first nine months of the latest year to \$271m, or \$4.47 a share, some 23 per cent above last year's Deere said the funds would

Du Pont was accused in April of using its pricing mechanism for the product in such a way

that smaller domestic pro-

ducers and foreign competitors

ing in the U.S. market.

city at the Mannheim, Germany, facility by 25 per cent, 10 build foreign operations turned in Bruchsal in Germany, to in-losses totalling \$12m in the crease tractor capacity by 20 per cent at Getafe, Spain, aod to expand capacity by more than 15 per cent at its engine factory in Saran, France.

Deere has completed con-atruction of a new combine assembly plant in Zwelbrucken, Germany and a tractor factory in Venezuela is nearly comple-tion with initial production ex-pected in early 1980. It said the Bruchsal depot will cost about

makers pay \$200m to settle case

24 carton

TWENTY-FOUR OF the largest US carton making companies have agreed to pay more than \$200m in settle-

ment of a longstanding anti-

One of the companies, Brown of Pasadena, yester-day reported that it had paid \$5.16m to cover its share of the settlement. The payment, however, is not included in the company's year-end operating net of \$22.3m, which compares with \$6.5m in the

previous year. Sales last year were just over 16 per cent higher at \$573m. Earnings per share work out at \$3.12 against 91 cents in 1977-78.

cents in 1977-78.
In approving the anti-trust settlement, two District Court judges said that customers of the folding carton companies would receive damages from a fund of \$200m plus more than \$10m accrued interest.

The case began in 1976

The case began in 1976 when the manufacturers were accused of conspiring to fix prices. Civil damage suits were preceded by Govern-ment indictments against 21 of the 24 companies. The 24 companies involved in the settlement havo con-

sistently denied any wrongdoing, but said they had agreed to the terms to avoid further legal expense.

A court statement said that there had been overcharging over 14 years and that 2,300 claims had been filed against the manufacturers.

EUROBONDS

First Eurodollar placing by U.S. loan association

BY FRANCIS GHILES

CALIFORNIA FEDERAL Savbeen disclosed but are underings and Loan Association has
stood to be identical to those
arranged what is believed to be
which the borrower would have the first private placement of paid had it raised money in the unsecured certificates of deposit in the Eurodollar market by a U.S. savings and loan associa-U.S. savings and loan associa-

Warburg and Paribas, with the assistance of Warburg Paribas The Commission said yester-Du Pont, according to the day that an appeal to the full riginal Commission allega- Commission was possible. was possible. Becker of New, York, have not

than one year.

The borrower is the fourth

largest savings and loan associa-tion in the U.S. but the largest

federally chartered one. Its placement suggests that a

market exists in Europe both for secured and unsecured CDs for such borrowers. Were this

The same bank has completed year bullet maturity for the Luxembourg steel company Arbed. The borrower is paying a coupon of 71 per cent.

issue bas been priced at 1001. The secondary market in foreign D-mark bonds remains

very quiet with no real move ment in prices and little trading. The German Capital Markets Sub-Committee will meet next

Thursday to decide the calendar of new D-mark foreign bond

issues for the coming month. In the straight dollar bond sector prices were mixed yes-terday in quiet trading. Al-

though the volume of trading in the floating rate note (FRN) sector was thin, according to dealers, prices remained steady.

A \$100m FRN issue for the Philippines is expected this week: indicated terms will incinde a maturity of aeven years and a coupon set at } per cent over the six month Libor rate.

The volume of Japanese con-vertibles in the Swiss franc sector of the market will decline in the next quarter if the schedule of new issues released by the Finance Ministry in Tokyo is a reliable guide.

were discouraged from operatment, arranged through S. G.

be emerging big winners.

As Measurex enters its second

investors has been justified.

revenues, incoming orders, and

shuns making forecasts but finds no quarrel with Wall Street estimates of earnings this year

between \$3.10 and \$3.50 a share.

"We do not make projections, but if those estimates were way

out of line, we would be making

notably quiet.

To put the outside predictions

over the previous year and equal

200 of its process control systems and by the end of fiscal

1978 had booked orders for 989

systems. It recently reached

its 1,000th system.

Planning the second decade

BY ART GARCIA IN SANTA BARBARA

address of Measurex Corpora- that will happen." Mr. Bossen sees in just that tion's beadquarters near San Jose, south of San Francisco, is business the potential for 25 per One Results Way. Since its cent compounded yearly growth founding in 1968, the manufac- in both sales and earnings " for turer of computer-based process some time yet."

cootrol systems has provided first the promise, then the results that have lod to a large following among technology analysts on Wall Street and inatitutional investors. Measurex has 80 per cent of revenues last year persistently ranked among the and should provide 70 to 75 per op companies picked by analysts cent of volume this year. as small concerns considered to

decade, the faith of analysis and Measurex's performance in its first The company capped its first 10 years with record profits. ten years has been impressive, but a new backlog in the fiscal year ended last November 30. A repeat of record highs in the 1979 fiscal year seems assured. Measurex round of enthusiasm is growing from its entry into energy

> management control systems, said to be a \$1bn market

some noises," says Mr. Robert Dahl, scrior vice president-finance. Measurez has been Systems for the plastics, rubber, metals, and building products industries represented the remaining 20 per cent last year. As impressive as Measurex's into prespective, bear in mind performance has been in its that Measurex in fiscal 1978 traditional pulp and paper markets, a new round of enthuearned \$8.8m, a 64 per cent gain siasm is growing from its entry to \$2.60 per share, which was a into energy management control 58 per cent increase. Revenues climbed 38 per cent to \$88.5m. systems, said by some to be a potential Sibn market. The company first outered the The backlog at the year-end was at a new high of \$31.7m and the level of incomlog orders energy control business in 1973 topped \$74m. For the first time, and since has developed what it Measurex shipped more than calls a broad-based product line to meet requirements of medium- to large-scale industrial

generating plants. Fuel costs bave more than another milestone, the order for quadrupled, making energy con-As the company enters its servation critical to industry, second ten years, the strategic and the threat of dwindling rethrust remains the same. "It is sources is forcing manufacto become the dominant com- turers to come up with ways pany in computer-based process to burn fuel more efficiently, control systems worldwide." Systems such as Measurex's says Mr. David Bossen, president and chief executive. "We equipment are expected to prothink in the businesses we are now, we are there. We believe Mr. Bossen is direct in his the business market potential is enthusiasm. He regards pros-

IT SEEMS appropriate that the putting a timetoble on when as "the most exciting new industry development in our history." Measurex began development of recovery boiler control systems before the 1974-75 OPEC oil embargo. We were already well positioned by 1975

when Union Camp, the world's largest white paper mill approached us for an energy control system," he recalls. Mr. Bossen claims fuel savings at an annual rate of 120,000 harrels per year are being reported in the first full year of operation for the power boiler and coreneration systems alone at the Union Camp mill.

From that initial order from textile company, Measurex has booked orders for energy systems from a food products company, a chemical manufac-turer and a university. It has received energy system orders from Finland, Japan, the Soviat Union and the UK, as well as inside the U.S. Over the longer-term. Measurex forecasts amoual revenues of around \$200m by 1983, with energy control expected to contribute half the total. The company intends to reach an eventual \$1bn yearly volume level withont completing any mergers or acquisitions, confident that the markets it now serves are "adequately large," as Mr. Bossen puts it.

By 1983, when Measurex expects to be ringing up volume of \$200m a year, international sales, which in fixed 1978 accounted for 55 per cent of total revenues of \$88.5m should represent close to 65 per cent.
"I think in the long ruo, if. we are doing our job right, interof about two-thirds, simply because two-thirds of the world market for our equipment is outside the U.S. says Mr. steam and electrical power Bossen

The company maintains offices in 17 countries and bas installed digital computer-based control systems in 25 countries around the world. The EEC, plus Finland, last year produced revenues of approximately \$32m out of the corporate lotal of \$88,5m. Japan and Canada are about even as the company's largest single-country foreign markets. "But the long range market potential is much larger large enough for a \$1bn com- pects for the company's Model market potential is much lar pany," he adds, "but we're not 2001 fuel optimization system in Japan," Mr. Bossen says.

FT INTERNATIONAL BOND SERVICE

funding operation to be followed by others, it would	on the second Monday of	is of these or other bone f each month
signify an alternative source of	U.S. DOLLAR	Change on
finance for U.S. savings and	S (RAIGHTS Issued	Bid Offer day work Yield 96 962 0 +02 10.62
loan associations, which to date	lex Howden XV 94 S1 30	178 80 0 2 13.08
have raised funds domestically.	Australian Res. 94 54 30	S5 564 -04 0 10.67
Last July, the Federal Home	Avec 0.5 Cap. 104 87 40	90% \$1% 0 0 12.89 55% 98%0% +0% 10.54
Loan board, which supervises	CECA 10% 91 153	944 95 00% 11.57
the savings and loan associa-		130 ¹ 2 91 0 0 11.19
tions, put forward proposals	Cirer Hawley 94 86 50	957, 961, +01, +01, 10,39 937, 941, -01, +01, 11,01
which, if adopted, would allow	201.00 to E 102 91 40	937, 944 - 0 + 0 11.01 957, 977, +04 +04 10.68
the associations to raise funds	Consineratal Grp. 57, 86, 400 Domo Pauroleum 10, 94, 50 Tempius Bridge 104, 84, 30 Tempius Bridge 104, 84, 30 Tempius Bridge 105, 85, 94, 200 Tempius Bridge 105, 105, 105, 105, 105, 105, 105, 105,	95', 57', +0', +0', 10.6' 95, 96', -0', +0', 10.4' 95', 81', +0', +0', 10.85 95', 86', -0', 0 10.17 95', 96', -0', -0 10.5' 96', 97', +0', -0', 10.5' 98', 98', +0', -0', 10.4' 93', 98', +0', -0', 10.4' 93', 98', -0', -0', 10.5'
in the Eurodollar market.	7-miniu , Bridge 104 84 33	953 874 +04 +04 11.07
securing the borrowings with	7.4 Cham. 0.5 0% 94 200	95', 96', -0', 0 10.17 95', 97', -0', -0', 10.51
mortgage boldings. The comple-	E/B 97, 99 100	363, 374, +03, -03, 10,49
tion of this first operation	50 150 150 150	93° 58° +0° -0° 10.44 97° 98° 0 -0° 10.51
suggests, however, that the	Exect Ov. Con. 91 84 100	97's 98's 0 -0's 10.51 96'- 97 +0's +0's 10.18 97's 99's +0's +0's 8.77
larger U.S. associations could	Export Ov. Cnn. 94 84 150	974 984 +04 +04 B.77
raise funds in the Eurodollar	Finland 95 89 100	95's 96's 0 +0' 10.49 95's 96' -0' -0' 10.56
market on an unsecured basis.		963 963 0 +03 10.53
	Finance 93, 86 55	921, 93 -01, +01, 10.98 941, 953, -01, +01, 10.27
	"crieff 155 ors 91 86 100	964 964 -05 +05 10.60
Div ponds	"langhat C. WIN CT OR 17E	+77L 78 0 +0L 10.48
a'ct Athaniang	ITT Applies 01- 90	931 831 - 01 +01 10 88
2 J 7	Kennecott Int at 86 : 100	914 917 +04 +04 11.33
in demand	71-nito-5 20- 89 75	94's 94's +0's +0's 10.40 95's 95's -0's 0 10.63
	**************************************	953, 961, -01, 0 10.33
By Our Euromackets Staff	Now arunswick 94 84 75 Newfoundland 10 94 50	93° 93° 0 +0° 10.63 96° 97 0 +0° 70.43
DEMAND for foreign Deutsche-	Norges Komm. 97 99 100	
mark denominated bonds con-	Norges Komm. 97, 99 100	1972 884 + 074 + 07 10.25 9674 8774 + 074 + 074 10.35 944 8574 - 074 + 074 10.68 9674 8774 - 074 - 074 11.11 924 8374 - 074 - 074 11.00
tinues to be strong; four new	Nova Scotis Pwr. 94 89 50 Occidental Fin. 104 84 50	941 951 -01 +01 10.68 961 971 -01 -01 11.11
D-mark denominated foreign	Occidental Fin. 104 84 50	964 974 -04 -04 11.11
bonds are currently being	Oriont Leasing 91, 88 25 . Pennwalt O/S F. 91, 84 25	203 202 0 707 10.00
arranged, three as private place-	Pepaico Ceo. 94 84 100 Portland 10 84 50	974 975 0 +04 8.98 · 86 964 0 0 11.07
	Ouebec Hydro 10 99 75	92% 83% -0% +0% 10.86
The Brazilian State oil com-	Redland Fin. XW 97, 91 25 Sears Roebuck B 82 150	861 881 +01 -07 11.49 961 967 0 +01 10.00
pany. Petrobras, is arranging a	Statoil 9% 86 100	05 05L . O _LDL 10 41
DM 125m public issue of 10-year bonds through Westdeutsche	Sweden 9% 89 100	86% 88% +0% -0% 17.49 96% 96% 0 +0% 10.00 95 95% 0 +0% 10.41 97 97% 0 0 10.37 96% 96% 0 +0% 10.34
Landesbank. The borrower is	Sundan III. 98 200	961 971 -01 -01 10.42 971 981 0 +01 10.31
paying a coupon of 8 per cent	Sweden 9% 84 100	97 97'3 0 0 10.37 96'3 96'3 0 +0'3 10.34 96'3 97'3 -0'3 -0'3 10.42 97'3 98'4 0 +0'3 10.31 95 95'3 +0'3 +0'3 10.15
and the issue has an average life	Warner Lambert S 84 700	963, 973, -03, -03, 10,42 973, 984, 0 +03, 10,31 95 953, +03, +03, 10,15 86 957, -03, 0 10,29
of eight years.	DEUTSCHE MARK STRAIGHTS Issued	Chapme on
Deutsche Bank, meanwhile, ls		8id Offer day week Yield , 95 351, 0 +01, 8.22 , 891, 981, +01, -01, 7.45
arranging three private place-	Asion Dev. 2k. 74 89 100	891 984 +01 -01 7.45
ments for Enropean borrowers.	Barclova O'tago 63, 29 100	1944 944 +04 -04 8.37
Two are for Eurofima, the Euro-	Barcloys O'sseo 6% 89 100 Brazil 7% 87 150	974 977 + 01 - 07 7.09 951 967 - 01 - 11 2.06
pean railway stock financing	Asion Dev. 3k. 7k 89 100 3.nco Desproio 7k 85 100 8.nco Desproio 7k 85 100 8.nco Desproio 7k 85 100 8.nco Desproio 7k 87 100 8.nco Desproio 7k 87 100 8.nco Desproio 7k 87 150 8.nco Desproio 7k 87 150 8.nco Desproio 8 100 8.nco Desproio 8	· 834 98% +04 -05 7.45 1944 944 +05 -05 8.37 574 977 +05 -07 7.09 555 957 -05 -17 2.05 100 1005 +05 0 7.93 867 987 +05 +04 7.77
company: a DM 100m five-year	Dodner of Eur. 74 00 100	98% 98% 0 -0% 7.41
bullet with a final coupon of	Oonmark 5% 96 100 Oonmark 6% 89 100	194 942 -02 -02 7.06
7 per cent and a price of 991 and a DM 40m eight year bullet	FIR 64 91 200	1941, 95 0 0 7.28 94 941, -01, -01, 7.26
issue with a final coupon of		997 1003 - 02 - 03 7.47
72 per cent and a price of par.	Eurofima 6º2 89 100	981 90 JA _AL 266
The same bank has completed	Finland & 89 moinit	97 974 - 04 - 04 . 6 78
a DM 50m issue with an eight-	Mitsubiohi Chem. 8-2 84 70 New Zeoland 6-4 87 200 Nicoon Kokan 6-2 84 100	994 1004 0 -05 3.49 844 945 +05 -21 7.24
West hullet meturity for the	Niopon Kokan 61, 84 100	974 984 -03 -04 7.02

The list shows the 200 latest international bond issues for which an adequate secondary market exists. For further details of these or other bonds see the complete list of Eurobond prices published on the second Monday of each month.

Closing prices on September 17. OTHER STRAIGHTS issued Bid Offer day week Yield Northe L. Bk. 5 84 SOR 20 97 98 0 -04, 9.68

EMPEROR SHAHJAHAN IS BACK IN THE SKY

Air-India is back in action after an industrial dispute.

Our 747's, named after Indian Emperors, will be flying daily to New York and daily to India.

AIRT-INIDIA

ALLOW US TO SPOIL YOU... AGAIN

اهكذا ساالد ال

MINORCO

MINERALS AND RESOURCES CORPORATION LIMITED

(Incorporated in Bermuda) Year-end Results and Final Dividend on the Ordinary Shares In accordance with the recommendations of the Canadian lostitute of Charlered

Accountants, as adopted by the Bermudian accounting profassion, the curporation has introduced the equity method of accounting in respect of its major associated companies for the first time, with effect from 1st July 1978. Associated companies are those in which the corporation and/or its subsidiaries hold 20 per cent or more of the equity

ebare capital and whose profits are freely remittable. No adjustments have been made to the corresponding 1978 figures.

The following are the unaudited coosolidated results of the corporation for the year

And the second s **BANKERS ACCEPTANCE**

A new-look formula from Pemex

a long pedigree in New York, London and other financial centres, is suddenly attracting crude nil, and the import of maturity. new attention in the internew attention in the inter-petroleum derivatives. It is national money markets as a understood thet the financing result of a transaction by will ba, in essence, the sole

agency. Pemex has just completed and signed an ecceptance agree. being granted credit periods ment for \$2.5bn with 66 lnternational banks. The facility was raised from an originally planned \$1.5bn, after the syndication operation headed by Bank of America in New York raised a staggering \$3.7bn of participations from the banks.

down figure, the facility ranks as one of the largest capital market transactions in recent years. It compares, for instance, with the \$3bn raised for balance-of-payments purposes by Canada last year, and the \$2.5bn Eurocurrency loan by

acceptances for short-term able obligation of the accepting product. financing for the export of its bank payable to the bolder at The Petroleos Mexicanos-Pemex, the vehicle for financing Mexico's oll and gas shipments.

Mexican state nil and gas The international oil trade is conducted extensively on credit. with oil consumers typically the oil-exporters.

The Pemex revolving line of credit uses prime U.5. bankers acceptances with maturities of up to 180 days, which will be eligible for discount at the U.S. Federal Reserve system. While acceptances have been

arousing the interests in both banks and potential borrowers to their uses, particularly for

When accepted by the bank, the draft may be beld by the

The Mexican operation has re-aroused the interest of both banks and potential borrowers to the use of the

bankers acceptance, particularly for large trade-related deals

Even at this acaled-down in use for many years, the bank for its own account or sold own figure, the facility ranks Mexican operation is re- at a rediscount to other at a rediscount to other existing for the instruments.
At maturity, the bolder is large trade-related transactions. paid the face amount of the A bankers acceptance essen draft by the accepting bank tially is a time draft for a The bank in turn receives pay-

THE BANKERS acceptance, the British Treasury in the mida money market instrument with 1970s.

a long pedigree in New York, Pemex will use the banks and becomes an irrecovof the sale of the customer's The formula should still work

formula bas been 'modernised" alightly for Pemex, chiefly in that it has been syndicated in interborder to obtain the large rates. amount needed.

In fact, participating banks are split roughly between U.S. and foreign institutions. Foreign banks with a full U.S. branch are eligible to participate in the acceptance market.

The rate structure on the facility is also complex. Each participating bank has been awarded an acceptance commission of 1 per cent. . As the rate of discount on

has been used for determining the ultimate cost to Pemer. This represents the average rate of five key reference banks in the syndication operation,

plua an extra margin of 20 basis in the varying rates of discount acceptance.

nut at relatively cheap financing The traditional acceptance for Mexico, in comparison with, ormula bas been 'modernised' say, the U.S. banking prime rate lightly for Pemex chiefly in (now 13 per cent), or London hat it has been syndicated in interbank Eurodollar interest

> While some banks are now re-thinking the role of acceptances in big international financings, there is one factor that may tend to limit thair use.
>
> The Pemex transaction alone

equals nearly 10 per cent of the total acceptance market in the U.S., which is estimated to run at a total annual volume of around \$30bn.
Some of the banks participat-

ing in this Mexican transaction acceptances varies from bank to are believed to bave been forced bank, a special blended formula to "run off" some of their existing acceptance commit-ments, in order to make room for the new facility. Bankers thus argue that, in

the foreseeable future, it may be difficult to accommodate points. Thie technique abould many transactions in North iron out any undue fluctuations. America of the size of the Pemex America of the size of the Pemex

Veba backs out of U.S. auction

VEBA, the West German energy concern, did not take part in vesterday's bidding for the Belridge Oil Corporation which nwns substantial oil drilling rights in the U.S., near Los

The decision was taken follow-in gobjections to the deal from a major minority sharebolder in Deminex, the 54 per cent owned nil exploration minority subsidiary of Veba which was to have been the vehicle for the offer. Had Deminex been represented at the auction it would possibly have been involved in the largest ever foreign offer for a U.S.

The objection to the deal came front Wintershall AG, a whollyowned refining subsidiary of BASF, which owns 18.5 per cent of Deminex. The company said that it refused the planned deal Inllowing intensive studies to-gether with the West German Economic and Finance Minis-

Wintershall sald under existing distribution quotas and other U.S. regulations it would be highly unlikely to receive direct access to crude oil supplies from

the Belridge oilfields. Earlier this month Veba, which is 43.75 per cent Government owned, said it was examining the possibility of making a hid for Belridge through its subsidiary Deminex, while the West German Economics Minisiry was looking into possible financial gurantees covering the

Norsk Hydro completes CNA acquisition

By Fay Gjester in Oslo NORSK HYDRO, Norway's largest industrial concern, has completed its acquisition of a Eclgian-Dutch fertiliser company—Compagnic Nederlan-daiec de l'Azote (CNA)—which has an annual turnover of around \$200m.

Plans for the takeover were

made public in June the deal strengthens Norsk Hydro's position as an international manufacturer of fertiliser products. For many years, Denmark and Sweden have been the main markets for these products from Hydro's Norwegian plants, the remainder being sold in overseas markets including the U.S. and the Far East. The takeover of CNA means that Hydro now becomes a major fertiliser producer on the Continent, one of the world's largest nitrogen fertiliser companies and the biggest exporter of urea.

While Norsk Hydro's main fer-uliser product is complex fertiliser, CNA's production is oriented more towards pure nitrogen products. The takeover will, therefore, give Hydro a more varied product range. CNA has an annual production capacity of 700,000 tonnes of ammonia. 730,000 tonnes of urea, 685,000 tonnes of nitric acid and 800,000 tonnes of other nitrogen fertiliser products.

Italy steps up funding level

ROME - The Italian Treasury will raise L7,500bn (\$9.2bn) in the next few weeks through an issue of Treasury Bills and Certificates. The issues will, in part, serve to cover repayment of L4,000bn worth of maturing Treasury Bills and L2,000bn of maturing Treasury Certificates. Of the maturing Treasury Bills, L3,600hn are held by commercial operators and the rest by

the Bank of Italy. later this month will consist of The Treasury Bill auction 1.2,000bn of aix month Bills and L2,750bn of 12 month Bills, the Treasury said. The Treesury will also sell L1,250hn two-year floating rate Treasury Certificates priced at per from September 1998. tember 28, and L1,500bn of three-year floating rate Certifi-calca priced at 99.75 per cent from October 1.

KUALA LUMPUR NEWS

Palmco raises \$79m for expansion

BY WONG SULONG IN KUALA LUMPUR

specified amount of money at a ment from its drawing customer

sortium of 12 banks to finance and glycerine. the expansion of its projects based on palm oil.

The loan and financial faciliof figancial instruments, designed to allow Palmeo to make the most efficient use of them and carry various rates and terms of up to a maximum of

PALMCO HOLDINGS, one of Malaysia, including further ex-ringgit during that period. agreeabla results" of the first Malaysia's fastest growing come traction of palm kernel oil, re- Datuk Robert Chan, its manag- six months. Malaysia's fastest growing com- traction of palm kernel oil, re- Datuk Robert Chan, its manag-panies, has accured loans and fining and fractionating, and ing director, said the group was other financial facilities totalling downstream processing of palm 170 ringgits (\$79m) from a conoil into industrial fatty acids

The group began refining palm oil in 1972, and has since grown to be one of the biggest ties, managed by UDA merchant palm oil refining groups in the bankers, consist of a wide range world. Last year, it exported refined

palm oil and related products worth 275m ringgit, compared with an export value of only Sm ringgit in 1972. Investment in six years' maturity. ... fixed and current assets has Palmco would use the funds to expand and diversify its operations in Prai, in Northern creased from 4.2m to 40m

expected to export products worth 500m ringgit.

UNITED PLANTATIONS, the Danisb-owned concern, has recorded an after-tax profit of over 10m ringgit (US\$4.5m) for the first balf of this year — nearly 140 per cent higher than the comparable previous period, when results were affected by drought. Output rose sharply and prices were good.

They based their forecast on tha fact that commodity prices were "still excellent" and that forward sales had been contracted at "advantageous price

For the first-balf, United Plantations recorded a turnover of 39m ringgits (US\$18.1m), a 73 per cent increase over the previous first-balf.

The volume of crop barvested during the first half gave reason to believe that output of palm The performance for the oil, palm kernal and cocoa second-half, the directors said, would be at e record this year, should be even better than "the the company said.

W. German construction machinery orders dipping

BY OUR FINANCIAL STAFF

OUTPUT BY the West German Exports of West German con-construction machinery industry struction machinery fell back is expected to tail off sharply sharply in 1977 and 1978 while during the final six months of the domestic market simulthis year, according to the taneously strengthened. VDMA, the Association Machinery Construction.

Production by the industry rose by a tenth in the opening str months of 1979, but is now forecast to emerge from the year as a whole with a rise of just 5 per cent . The slowdown is atributed to adverse government investment policy and rising oil prices.

economy. Breaking the industry into categories of construction machines and machines for construction materials, the VDMA noted that the former category had posted record production in the first six months of 1979, up the period.

reversed, the association em-Exports to OPEC phasised. states are expected to incitate in the last balf of 1979. The high export levels to OPEC states posted in 1975 and 1976 will probably not be reached, bowever, since most of the one-time needs for major plant construction bave already been

Despite the sombre forecasts, VDMA said that production was closings created a preliminary currently benefiting from the 21 per cent rise in order inflow strength of the West German textile industry for July, the Textile industry Association (Gesamt-textit) reports. Production of textiles rose 31 per cent in July against July 1978. In its monthly report on industry statistics, the association said 13.6 per cent from the year that both order inflow and pre-earlier. The latter, under duction figures were exag-heavy export pressures, ex-panded only 0.8 per cent during ing in July, 1979 were sbut down for holidays last year.

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L'Oreal confirms offer for Helena Rubinstein

BY TERRY DODSWORTH IN PARIS

L'OREAL THE leading French Helena Rubinstein would give cosmetics company and owner it a major presence in the U.S., of the Lancome trademark, bas but the French company would confirmed that it is once again also be faced with a sizeable attempting to buy Helena task in pulling the American Rubinsteln of the U.S. task in pulling the American group back into profits. Heleoa

between the two companies lost about \$3m in its last finanfoundered earlier this year cial year after a lengthy period when Colgate Palmolive, the of financial difficulties. owner of Helena Rubinstein, Apart' from its interests in entered into talks with Kao, cosmetics and perfumee, L'Oreal through at the last moment.

to expand its overseas base, generated overseas,

group back into profits. Heleoa Rubinstein is believed to bave

a Japanese specialist in the bas a strong position in detergents industry. Kao made the French bair lotion and a \$75m bid for the U.S. com-shampoo market, and ie pany, but the agreement fell reckoned to be among the leaders in pharmaceuticals. Its L'Oreal, which is loosely turnover last year amounted to linked with Nestle, the Swiss FFr S.6bn (\$1.3bn), of which group, ia known to be anxious a little more then balf was

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Wheelock Marden and Company Limited Further Growth in Recurring Profits which

* Total Distributions per Share increase by 32%

Financial highlights from the accounts for the year ended 31st March, 1979.

	1979 HK\$'million	1978 HK\$'million
Consolidated Net Profit After Tax Extraordinary Items	7 <i>22.33</i> 2.48	86.19 10.37
	124.81	96.56
Total Dividends Paid and Proposed	55.90	40.53
Special Capital Bonus Proposed Payable in Cash	6.99	6.99
Consolidated Net Assets	905.53	848.35
Consolidated Net Asset Value	HK\$	HK\$
Per HK\$1.00 "A" share Per HK\$0.10 "B" share	\$3.24 \$0.32	\$3.04 \$0.30
Earnings Per Share (before Extraordinary Items)	Cents	Cents
Per HK\$1.00 "A" share Per HK\$0.10 "B" share	43.8 4.4	30.8 3.1

The Amusi General Meeting will be held at the Mandarin Hotel, Hong Kang on 1st October, 1979. Capies of the Annual Report for the year ended 31st March, 1979 can be obtained from Miss Shella Gray, Wheelock Marden (U.K.) Limited, 16, Firsbury Circus, London, EC2M 7DD.

ended 30th June 1979, which abuild be reed in conjunction with the adjoining notes. CONSOLIDATED PROFIT AND LOSS ACCOUNT for the year ended 30th June 1979 (expressed in United States dollars) Year ended

30th June 1978 Note Income Dividends from investments including associates
Interest and sundry income 15,115 2,423 1,339 1,452 Zamic operations
Profit arising from currency fluctuations 20,328 1,315 253 2,436 Administration end other expenses Costs of prospecting 4,C01 16,290 1,224 16,324 1,179 Operating profit after taxation Group share of retained net earnings of t5.145 t,576 Profit before extraordinary items Extraordinary items-deficit Profit after extraordinary items Dividends-Ordinary shares Capital reserve
Prospecting reserve 3,210 2,614 32,255 Unappropriated profit 30th June 1978 ... Adjustment thereto arising from curreccy finctuations (359) 39,519 31,596 65,066 39,250 Uneppropriated profit 30th June 1979 ...

The results for the current year are not comparable with those of the previous year because with effect from 1st July 1975:—
(i) the results of Zamanglo Industrial Corporation Limited (Zamic), a wholly-owned subsidiary, have not been consolidated because its profits are not currently freely remittable from Zambia, and

(ii) the equity method of accounting has been introduced for the first time. Income includes gross dividends and interest before deduction of withholding taxes, such taxes being included in the charge for foreign taxation.

The financial year-eode of certain associates do not coincide with that of the corporetion and accordingly, the results for thie year include only that portion of the earnings of each associate which fell within the corporation's financial year. In future years the corporation will account for the earninge of each associate for a full financial year. Extraordinary Items

In the year to 30th June 1979 a profit was realised on the sale of investments of \$319,000 and a deficit arose in an associate on the writedown of investments of \$1,418,000, resulting in a net deficit of \$1,099,000. The total deficit for the year ended 30th June 1978 was \$1,576.000 comprising an amount of \$838,000 arising on the writedown of, and provision against, investments, a loss on realisation of investments of \$244,000 and losses arising on devaluation of foreign currencles totalling \$494,000. Dividends

2,943 5,886 Interim dividand of 4 cents a share declared 14th February 1979 Final dividend of 8 cents a share declared 17th 5eptember 1979 8,829 8,829 Unappropriated profit at 30th June 1979 comprises: 5000's 46,075 18,991 Retentions by the corporation and Its subsidiaries

Inspiration Consolidated Copper Company (ICC) Inspiration Consolidated Copper Company (ICC)

The corporation and Hudson Bay Mining and Smelting Co. Limited (Hudbay) together equally own a company known as Plateau Holdings Inc. (Plateau). which, in turn, owned inspiration Holdings Inc. (IH). At 31st July 1973 IH held 73.04 per cent of the outstanding common stock in ICC. During the year under review IH was merged with and into ICC and the balance of 26.96 per cent of the outstanding common stock in ICC was cooverted into class "A" preferred stock, which is redeemable before 31st December 1981. Consequently—through Plateau—the corporation and Hudbay now own, in equal shares, all the common stock in ICC.

The preferred stock rarries a cumulative preferred annual dividend of \$1.50 a share. The preferred stock carries a cumulative preferred annual dividend of \$1.50 v sbare, bas the same voting rights as the common stock and is redeemable, at the option of the holders, on each quarterly dividend payment date for \$33 a share. Concurrent with the redemption of each unit of ICC preferred stock, Plateau is obliged to subscribe for one common stock unit in ICC for \$33. At 30th June 1979, 713.553 units of preferred stock were in issue. . .

US\$50 million multicurrency term credit facility The corporation has recently negotiated with a consortium of international banks a US\$50 million multicurrency term loan facility baving a duration of ten years.

The rate of interest will be based on offered rates quoted by certain defined banks in the London Interbank Eurocurrency Market.

FINAL DIVIDEND NO. 85

A final dividend of 8 cents a sbare (1978: 8 cents) (United States currency), for the year ended 30th Jone 1979, bas been declared payable to members registered in the books of the corporation at the close of business on 28th September 1979 and to persons presenting coupon No. 88 detached from abare warrants to hearer. A notice regarding payment of divideods on coupon No. 88 detached from share warrants to hearer will be published in the Press by the London Secretaries of the Corporation on or about 28th September 1979.

This dividend, together with the interlm dividend of 4 cents a share (1978: 4 cents) declared on 14th February 1979 makee a total of 12 cents a share for the year 11978:

Dividend warrants will be posted from the registered office of the corporation in Bermuda and from the Johannesburg and United Kingdom offices of the local registrars on or about 8th November 1979. Shareholders on the United Kingdom register resident outside the United Kingdom will receive their dividends in United States currency. Shareholders resident in the Scheduled Territories will receive the United Kingdom register resident of the United States currency. Sbareholders resident in the Scheduled Territories will receive the United Riogdom currency equivalent on 30th October, 1979 of the United States dollar value of their dividends (less appropriate taxes). Such shareholders may, however, elect to be paid to United States currency provided the request is received at the company's transfer offices in the United Kingdom on or before 28th September, 1979. The dividend is payable subject to conditions which can be inspected at the registered office of the corporation and also at the Johannesburg and United Kingdom offices of the local registeres. For and on hebalf of the Board

W. D. WILSON Directors

65,066

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Record third quarter sales for Sony

quarter results have lent a boost to the company's confidence in though the share of total sales its business outlook. Net income was down to 31.7 per cent. from for the period, announced yes- 35.1 per cent. terday, was well below the year ago figure, as a result of exchange lossea, but a sharp recovery is being forecast for the last quarter of the fiscal

year and for beyond. Sales in the quarter, to July 31, were 19 per cent up on last year's level, to a record Y161.2bn (\$720m), with the best tape recorders (VTRS) and magnetic tapes. VTRs and VTR of all sales, against 21 per cent a year ago, with equipment sales up 32.2 per cent.

periods, were up 7.2 per cent,

Overseas sales gained 20 per cent and domestic sales 17.6 per cent. About 60 per cent of Sony's business is overseas. Gains were particularly good in South East Asian and the Middle East markets.

Third quarter net income fell 40.1 per cent to Y5.95m with net income for the first nine months gains coming from sales of video of the year decreasing 37.6 per cent to Y13.8bn. The company magnetic tapes. VTRs and VTR attributed the drop to foreign tapes accounted for 25 per cent exchange losses, which totalled The exchange loss, bowever, showed an improve-

on this account. This time 80 per cent was a loss on forward contracts and 20 per per cent was attributable to the translation of overseas dollar profits into yen, under U.S. accounting practice. In the second quarter, 40 per cent of the exchange loss was the result

of translation losses. The net profit in the last quarter is expected to show an increase of over 100 per cent in comparison with that in the fourth quarter of 1978, when the company suffered a 40 per cent

Net income for thef ull year should therefore be only 10 per ales up 32.2 per cent. ment for Sony as compared cent below last year's Y25.87bn.

Television sales, which had with the second quarter, when With the problem of exchange

SONY CORPORATION'S third proved aluggish in earlier the company had a Y10.9bn loss losses fading away, the company ing about 40 per cent of the predicting increases next year.

Sales for the full year are expetced to reach a record compared Y534.9bn last year.

Sony has made considerable savings in its operating costs over the past year, and these have contributed to a 190.5 per cent increase in operating profit the latest quarter, to Y19.37bn.

The company is stepping up spending for research and development (coocentrating on audio and video products). Such spending equalled 6.6 per cent of sales last quarter, up from 5.8 per cent last year.

Sony has held its own in the competition for VTRs, maintain-

Japanese market on its ownwith the percentage rising when other companies using the Sony Betamax system are included The market development rate in both the U.S. and Japan is still only 3 per cent of potential. Sony feels, and believes this will rise as high as 10 per cent in coming years. The company is also preparing a range of video disc systems in preparation for future introduction commer-

Sales of a higher priced VTR model, introduced this year, have been strong, as have those of more expensive television sets with built-in stereo and multi-band receiving capabili-

Containers boosts earnings

By James Forth in Sydney

TWO OF THE leading companies in the highly competitive packaging industry. Containers and J. Gadsden Australia bave reported contrasting profit results for 1978-79.

Earnings at Containers rose 36 per cent from A88.4m to A\$11.4m, (US\$12.8m) on a 13 per cent increase in aales to A\$195m, but Gadsden suffered a 6 per cent dip in earnings from ASS.26m to A\$7.79m despite a 4 per cent gain in sales to A\$248m.

Containers has increased its dividend from 15 cents a share to 15.5 cents, an amount almost three times covered by earnings of 45 cents, which compare with the 40 cents of the previous year.

Gadsden has maintained its basic dividend at 17 cents, but has added a bonus payment of 5 cents, despite the lower profit, to celebrate the company's 100th

year of operations.

The Gadsden result equalled earnings of 33 cents a sbare, compared with 47 cents in 1977-78. The directors of Continers said that strong demand for export psckaging and good seasonal conditions for certain of the group's "open top" customers assisted in maintaining the favourable results reported in the first-half.

The elimination of losses in two-piece canmaking materially assisted the Containers result. But, Gadsden's results were adversely affected by losses from its two-piece canmaking opera-tion. Gadsden acquired a 60 per cent interest from ACI in Pacific Can during the year, and this operation is now known as Gadsden-Pacific Can.

Gadsden's results included a loss of A\$1m as its share of Gadsden-Pacific's losses for the seven months after acquisition. Considerable attention had been given to improving the efficiency of this operation and, while competition remained vigorous, the directors expected the current year would be satisfactory, slthough it was not expected to be profitable in the short term.

Kubota increase

TOKYO - Consolidated net income for Kubota, the construction and machinery group, increased to Y4.50bn for the first quarter ended July 15. Sales were ahead at Y114.19hn com-pared with Y100.77bn. Earning per American depo-sitary Y71.00. Reuter.

Takeover withdrawal censured

BY PHILIP BOWRING IN HONG KONG

THE Committee of Takeovers Malaysian group because of the the advice of its merchant bank and Mergers has recorded its eminence of many of the mem-"strong disapproval" of the be-bers of the board of Highlands. haviour of the board of Highlands and Lowlands Ber-had, the Malaysian plantation Finance Minister now chairman msted Rubber and Shanghai Kelantan Estates. The Commit-tee said it regarded the reasons given by Highlands for withdrawing to be "inadequate." within the terms of the volumtary rules of the takeover code.

The bid for the three companies was announced by Highands and Lowlands on August 7. This is the first such censure that Hong Kong's takeover com-

The board includes: Tun Tan company. Last week Highlands of Sime Darby; Tunku Shabri-withdrew a HK\$300m (U.S. man, chairman of Pernas, the \$59m) cash offer for three national corporation which is. Hong Kong quoted estate com-panies, Rubher Trust, Amalga-and bas 10 per cent of Highland: Raja Muhammad Alias, chairman of Malaysia's Federal Land Development Authority: Senator Tan Sri Lee Loy Seng, head of the Kuala Lumpur Kenong plantation group, and Datuk Syed Ketchik, the businessman,

The board entered into the decision to withdraw the bid before providing the takeover committee with a full explanation. The statement from the mittee has banded out. It is committee said that the board especially embarrassing for the had acted expressly contrary to ments."

advisers in Hong Koog, Baring Brothers Asia and Amex Bancom. The bankers bad both dissociated themselves from the board's actions by resigning as financial advisers to Highlands.

In reply to the committee's request for full explanation of the withdrawal of the offer, the company bad said that there had been "no satisfactory" response from the three estate

But the committee pointed out that the three bad publicly stated that they had taken immediate steps to have their estates revalued so that their Mining Company, the Japanese financial advisers could advise! mining and smelting concern. sbareholders. The committee said that the company had made a specific and firm offer and the investing public "ahould be entitled to reply on such state. Mitsubishi Chemical up

Thomas Nationwide well ahead

SYDNEY-Thomas Nationa A\$5.12m (A\$158,000).

interest of A\$15.16m (A\$9.29m), and minorities of A\$4.73m (A\$3.05m), but before attribut-

wide Transport, raised its attributable consolidated operating profit to A\$23.36m of one new 50 cent par sbare (U.S.\$26.2m) in the year to June for every 30 notes at 50 cents 30,, from A\$14.22m a year per sbare to holders of 1980 and earlier. Turnover was 1983 unsecured convertible A\$610.71m (U.S.\$686m), against notes registred on November 23.

A\$463.09m, and other income
A\$10.53m, against A\$11.53m,
Profit is after tax of A\$14.11m,
compared with A\$11.98m, depreciation of A\$18.70m (A\$12.26m) bonus issue would accrue to such notes and be allotted on conversion. able net extra-ordinary profit of CONCRETE INDUSTRIES Reuter

(Monier) is to increase its holding in Nippon Monier KK to 80 per cent from the present Reuter. 33.33 per cent.

It will do so by purchasing the shares held by Eidai Com-pany, while the remaining 20 per cent will continue to be per cent will continue to be held by Nissho-Iwai Company.

Concrete Industries added that it will build a new concrete tile plant at Dyama. Kanto, at a cost of \$3.68m, to be financed partly by a Nippon Mooier sbare issue.

BMI to make rights issue after advance

BMI, the major quarrying, building materials and engineering group, is to raise A\$11m through a rights issue to shareholders, after a solid gain in profits for the year to June 30. The group's earnings rose 30 per cent from A\$9.6m to A\$12.6m (\$US\$14.2m), continuing the upward trend of the past five years.

The dividend is raised from 7.5 cents a share to 8 cents, lifting earnings per share from 14.9 cents to 17.3 cents.

The rights issue will be offered on a one-for-four basis, at an issue price of 50 cents. BMI shares closed at A\$1.19 on the market yesterday, giving the rights a theoretical value of The new shares will rank for dividend after January 1, 1980, and the directors expect maintained on the expanded

Looking ahead, the directors plan to seek sbarebolders' approval to double the authorised capital to A\$100m to provide scope for further issues which may be necessary in con-nection with BMI's positive programme of expansion."

The directors said that con-tributions from the group's direct domestic operation rose by 29 per cent, but that the growth from local operations was not mirrored in the group's overseas operations, which all suffered from reduced demand in their areas. The bigher result was achieved on a 19 per cent increase in turnover from A\$174m to A\$208m.

The board said the rise in the higher dividend rate to be tin prices was responsible for

investment income rising by August totalled 1,426, up 11.1

13.6 per cent to A\$1.7am | per cent from the 1,283 in July, through the group's stake in hut down 0.9 per cent from 1.438
Kajuara Mining Corporation in the like year-earlier month,
Investments in concrete and the Federation of Bankers' quarrying did not fare as well, because of lower demand and intense price competition.

The performance of the over-

seas division dipped through a mixture of bad weather and exchange losses. A general transport strike and barsh winter in the UK halted the growth in January and February of Pozzolanic Ltd, the UK fly ash distributor, resulting in further

In Indonesia, devaluation as well as causing direct losses in unrealised currency fluctuation losses, deterred investors and further depressed the already reduced Javanese construction

Issued, to be issued

at 23rd August, 1979

25,917,010

Itoh passes its halfvear dividend

TOKYO - C. Itoh and Co. the Japanese trading house, is to pass its mid-year dividend payment for the first time in 27 years.

The company has decided not to pay a dividend for the September 30 half year because it expects to face heavy losses by the end of the current fiscal year next March 31. It is to sboolder most of a Yal.4hn \$230.28m) deficit suffered by the Toa Oil group, of which it is the major stockholder.

C. Itoh has already agreed to sell part of the group to Nippon The company is planning to pay a year-end dividend. AP-DJ

TOKYO - Mitsubishi Chemi cal industries Ltd made an after-tax profit of Y2.85bn (\$12.76m) in the balf year eoded July 31, against Y1.37bn in the same period last year Sales totalled Y295.93hr (Y255.83hn). The Interim divi dend was nil.

Kirin Brewery

TOKYO - Kirin Brewery bas reported after-tax profit of Y9.23hn (841.35m) in the half year ended July 31 compared with Y9.49hn in the same period last year. Sales were Y447.67bn compared with Y428.61bn. Interim dividend is Y3.75, the same as last year.

Increase in suspensions

TOKYO - The number of Japanese companies suspended the Federation of Bankers

Association said.
Liabilities left totalled about Y43.63bn (\$200m), up 11.8 per cent from the Y39.01bn in the previous month, and 124.6 per cent from the Y19.27bn a year AP-DJ

Higher result from Edward L. Bateman

By Jim Jones in Johannesburg EDWARD L. BATEMAN, the mechanical and electrical engin eering group, bas again repor-ted record results, but the management is characteristically cautious on near-term

In the year to June 30, the pre-tax operating profit ad-vanced 24.3 per cent to R6.65m (SSm) (1978: R5.35m) belped by uranium and diamond mine olant construction projects taken to account during the year. Although at this time last year the board was happy with the company's order book, the nouncement gives a warning that the work load is still below plant capacity.

However, earnings for the current year are expected to be about the same as those for the latest trading period. Bate-man is traditionally a conservatively run company, with little debt carried in its balance abeet. Although earnings per share advanced to 170 cents (1978: 139 cents), the total dividend pay-out has been limited to 30 cents (1978: 26 cents).

George Kent profits ahead

By Wong Sulong in Kuala Lumpur PRETAX PROFITS of George Keot Berhad, the 60 per ceot owned Malaysian subsidairy of George Kent, for the first six months increased by 16 per cent to 1.69m ringgit (U.S.\$782,000) on an 18 per cent rise in turnover to 16.3m ringgit
The company said profit man

gins from its Singapore opera-tions were lower due partly to the execution of some large contracts at low margins and also higher cost of operation. The company is optimistic that results for the full year would be hetter than last year's and that orders bad expected anticipated volume. An interim dividend of S per

cent is declared.



WARTA AG develops, produces, sells and maintains through its subsidiary Varta Batterie AG a comprehensive programme of all types of batteries: industrial batteries, starter batteries and consumer batteries for a wide range of purposes and applications. Its subsidiary Varta Plastic is active in the processing of thermoplastics for manufacturers e.g. of long life electrotechnical consumer goods, cars and office furniture.

Varta Report 1978

Varta's world-wide sales in 1978 totalled DM 1,208 million (at current rates about £302 million). Consolidated German domestic sales and exports amounted to

DM 777 million (about £194 million). Exports grew by 7 per cent, thus bringing their share of total turnover to 29 per cent.

The international business (turnover of foreign subsidiaries plus exports from Germany) increased to 54 per cent of world-wide sales.

The group's profit on consolidated domestic sales was DM 22 million (obout £5.5 million). A dividend of DM 6 on each DM 50 share was voted by the general

Dividend

Personnel

meeting, increasing the total amount distributed by one million DM to 11.9 million (obout £3 million). The group employs world-wide 13,000 personnel of whom about

For a copy of the English version of the annual report, please write to Frank Law, Choirman, UK Group, Varta House, Hanger Lane,

one-third work outside Germany.

BAD HOMBURG w.d.H., FEDERAL REPUBLIC OF GERMANY.

This announcement appears as a matter of record only.



LANDSVIRKJUN

THE NATIONAL POWER COMPANY **ICELAND**

U.S. \$40,000,000

Floating Rate Multi-currency Loan

managed by

Hambros Bank Limited

Canadian Imperial Bank of Commerce Mitsui Finance Europe Limited

Banque Bruxelles Lambert S.A.

Société Générale

The Taiyo Kobe Bank, Ltd.

to be provided by

Banque Bruxelles Lambert S.A. Gulf International Bank B.S.C. The Mitsui Bank, Limited Scandinavian Bank Limited Société Générale

Canadian Imperial Bank of Commerce

Hambros Bank Limited Mitsui Finance Asia Limited The Taiyo Kobe Bank, Ltd.

Agent Bank **Hambros Bank Limited**

September, 1979



Results for the year ended March 31st, 1979.

Turnover £43million Profit before tax £15 million

"We expect our turnover to increase again in 1979/80 and hope to improve our margins on these sales."

> Ralph Ehmann, Chairman and Chief Executive

For copies of the 19789 Report and Accounts please write to The Company Secretary, Airlix industries Limited, 17 Old Court Place, London, W.S.

This advertisement is issued in compliance with the requirements of the Council of The Stock Exchange. It does not constitute an invitation to the public to subscribe for or purchase any shares.



Petrolane Incorporated

(Incorporated with limited liability under the laws of the State of California, United States of America)

48,000,000

Shares of Common Stock of no par value including 12,473,464 shares to be issued and 970,082 shares reserved for issue

The Council of The Stock Exchange has admitted to the Official List 12,473,464 issued shares together with, subject to allotment, 12,473,464 shares to be issued under the terms of the recently announced 2 for 1 stock split and 970,082 reserved shares arising from the stock option plan for Key Employees of Common Stock of Petrolane Incorporated.

Particulars relating to Petrolane Incorporated are available in the Extel Statistical Service and copies of such particulars may be obtained during usual business hours on any weekday (Saturdays excepted) up to and including 2nd October, 1979 from:

> S. G. Warburg & Co. Ltd., 30 Gresham Street, London EC2P 2EB

Cazenove & Co., 12 Tokenhouse Yard. London EC2R 7AN

Rowe & Pitman. City Gate House, 39-45 Finsbury Square, London EC2A IJA

18th September, 1979.

اهكذات الدول

VALUE OF

CURRENCIES, MONEY and GOLD

Sterling weak

Sterling fell zharply in currency markets yesterday, but finished well above its lowest levels. Pressure on sterling, which really started last Friday, soon re-asserted itself as large and consisient selling orders, particularly out of West fermiony saw the pound fall over 3 cents against the U.S. dollar at one time. After opening at \$2.1575, it rose briefly to \$2.1600 before plunging to



\$2.1260 at around 11 am. The Bank of England intervened from time to time at these tower levels but the scale of help barsly reached modest proportions. During the sfternoon the pound looked somewhat oversold and renewed interest pushed up the rate at the close to \$2.1510-2.1520, a fall of 1.7c from Friday.

While the possibility of an

While the possibility of an imminent revaluation of the D-mark receded, the market was still unhappy over the current industrial unrest in the UK and continued high level of

Osnish Krone ... Germen D-Meik French Franc ... Outch Guilder . .

2 gainst the D-mark and FFr 9.1025 from FFr 9.1750 in terms of the French franc. Using Bank of England figures, its trade weighted index fell to 68.4 from 69.3, although this was a considerable improvement over

the noon calculation of 67.8.

The dollar showed a mixed tendency overall and clozed at SWFr 1.6315 from SWFr 1.6330 against the Swiss franc, but rose slightly against the D-mark to DM 1.3120 from DM 1.8115. On Bank of England figures, its trade weighted index was unchanged 21 85.0. FRANKFURT — There was DO

intervention at yesterday's fixing by the Bundesbank when the dollar was fixed at DM 1.8101, down from Friday's tevel of DM 1.8137. The U.S. unit tended to trads rather quistly as attention centred on sterling. The pound was fixed at DM 3.8680 compared with DM 3.9470 late on Friday. Sterling's decline may have been further execerbated by investors switching into gold.
Within the EMS the Danish Within the EMS the Danish krooe was fixed at DM 34.69 per DKr 100, welt above its floor level within the system. On an ECU basis the Belgian franc weakened as pressure switched from the krone, after the recent rize in Denmark's bank rate, to the Belgian granes.

the Belgish currency.

MILAN — Sterling f MILAN — Sterling fell sharply at the fixing on beavy selling to L1,737.80 from L1,775.30, white the dollar also weakened to L814.30 from L815.45. This came despite assistance from the Bank

of Italy.

TOKYO — The dollar eased slightly against the yen yesterday to close at Y223.725, down from Friday's level of Y223.975. The U.S. unit resched a high of Y224.05 before profit taking became more widespread. Trad-Sterling was also weak against ing was generally quiet with the other European currencies and dollar maintaining a firmish OTHER MARKETS fell to DM 3.90 from DM 3.93 undertone:

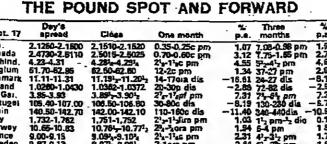
EMS EUROPEAN CURRENCY UNIT RATES

+1.90 -0.23 +0.95 +1.18 +0.67 -1.88

40.2043

7.22045 2.50481 5.85356 2.75246 0.868423 1126.51

Changes ere for ECU, therefore positive change denotes a wook currency. Adjustment calculated by Financial Times.



THE DOLLAR SPOT AND FORWARD

Sept. 17	Day's	Close	One month	% p.a.	Three months	7.2. p.a.
UK†	2.1260-2.1600	2.1510-2.1520	0.35-0.25c pm	1,07	1.08-0.98 pm	1.91
issiend†	2.0740-2.0770	2.0740-2.0770	0.90-0.70c Pm		2,40-2.00 pm	
Caneda	1.1624-1.1636	1.1526-1.1529	0.08-0.05c pm		0.26-0.22 pm	
Neihind.	1.9883-2,0018	1.9995-2.0015	0.57-0.47c pm	3.12	1.52-1.42 pm	2.94
Salgrum	29.04-29.153	29.071-29.09	To pm-1e dis		2 pm-par	0.14
Denmark	5.2015-5.2230	S.2015-5,2030	7.75-8.25ore dia			-11.34
W. Ger.	1.8104-1,8117	1.8107-1.8117	0.91-0.91pf pm		2.47-2.37 pm	
Portuga (49.55-49.80	49.57-49.67	20-30c dia	-6.05	65-105 dia	-6.65
Sgain	66.03-66.08	65.03-66.07	60-80c dis.			-11.81
Italy	814.00-814.50	814,20-814,40	0.10-0.50ilra dis			-1.79
Norway	5.0040-5.0090	6.0080-5,0090	0,35-0.15ora pm		0,25pm-0.25c	
Franca	4.2295-4.2325	4.2295-4.2310	0.13-0.05c pm			-0.38
5 weden	4.2166-4.2205	4.2190-4.2200	0.75-0.85ora pm	1.85	0.50-0.30 pm	0.38
Jagen	223.10-223.50	223.30-223.50	1.15-1.00y pm	S.77	3.10-2.95 pm	
Austrie	13.039-12.049	13.042-13.047	5.80-6.30gm pm	5.11	14.50-13.00pr	
5witz.	1.6305-1.6315	1.6305-1.6315	1.49-1.44c pm	10.78	4.28-4.23 pm	

CURRENCY MOVEMENTS
rrency. Ferward premiums and discounts not to the individual currency.

Bept 14	rate		Currency	2cpt 17	England In dex	Guaranty changes
Bierling. U.E. S. Canadien 2. Austria Sch. Belgian F. Canish K. O Mark. Builder. French Fr. Lira. Yen. Nrwgn. K. Bpanish Pes.	1012 1214 534 8 11 6 8 912 1012 514 7	0.656801 1.29834 1.60958 12.9524 57.7882 6.79876 2.55480 5.56480 1058.80 250.598 6.50468 85.7476	1.88654 1.80909 18.0961 40.2325 7.251295 2.75971 5.87522 1129.90 610.518 e.94562 91.5493	Starling U.S. deliar Canedian deliar Austrian achilling Belgian franc Danish hraner Deutsche mark Gwiss franc Guilder Franch franc Lira Yen Based on trade we	81.2 159.1 114.5 115.7 155.3 200.0 124.3 99.5 55.6 127.8	-36.8 -6.4 -16.2 +58.0 +14.0 +14.2 +83.4 +19.3 -7.0 -48.6 +25.5
wedish Kr	7	5.4e55e	80008.9	Weshington agreem	Wint Deca	mber, 197

Sept. 17	£		i	Note Rates
Argentina Peso Australia Oollar Brazil Cruzelro	62.12.62.39	0.8895-0.8920 28.85-28.05	Austria Selgium Denmark	9712-2812 6412-6512 11.10-11.20
Iran Rial	150.34-157.8e	37.10-37.40 e.0685-5.0715 70-751	Germany Italy	e.e5-3.85 1,770-1,820 477-487
Kuwali Qinar (KD) Luxembourg Fro. Malaysia Dollar New Zealand Dir.	0.588-0.599 63.05-63,16 4.8190-4.6300 2.1663-2.1665	9.1030-2,1050	Norway Norway Portugal	4.90-4.30 10.70-10 85 104-111 1401-1431-
eaudi Arab. Riyat. Singapore Dollar. Sth. African Rand	7.15-7.95 4.e100-4.621e	e.5e83-3.ee15	Switzerland United States Yugosizvia	e.45-3.55 8.1412-2.16 4412-4614

Sept. 17	apread	Clòsa	One month	p.e.	months	p.a.
U.5.	2.1250-2.1500	2.1510-2.1520	0.35-0.25c pm	1.07	7.08-0.56 pm	1,91
Canada	2.4730-2.5110	2,5015-2,5025	0.70-0.60c pm		7.75-1.55 pm	2.72
Nathind.	4.23-4.31 -	4.281-4.2914	21,-12c pm	4.55	סום לי 4-25	4,66
Beiglum	51.70-52.95	62.50-62.60	12-2c pm		37-27 pm	2.05
Denmark	11.11-11.31	11.791-11.201	14-1701a dis	-16.61	24-27 dis	-8,10
Ireland	1.0260-1.0430	1.0362-1.0372	20-300 dis		72-82 dis	-2.97
W. Gai.	3.85-3.93	3.851-3.9012	2°s-1°spf pm		74-54 pm	7.31
Portugel	105.40-107.00	106.50-106.80	30-80c dis	-8,19	130-230 dia	-6.75
Sgain	140.50-142.70	142.00-142.10	110-160c dis	-11.40	340-440dla -	10.98
lialy	1,732-1,762	1,751-1,752	21-11-fire pm		15 pm-3 dig	0.11
Norwey	10.65-10.83	10.78-10.7713		1.54	6-4 pm	1 86
Freлce	9.00-9.15	9.094-9.104	214-1145 pm	2.31	41, 31, pm	1.76
Sweden	2.97-9.13	9.07-2-9.08-2	3-1ore pm	2,84	57-37 pm	7_98
Jepan	475-488	4801, 4811,	3.25-3.00y pm	7.80	2.00-8.65 gm	7.34
Auetrig	27.75-28.25	28.05-28.10	20-10gre pm	8.41	50-40 pm	6.41
5wilz.	3.46.3.54	3 5033 P13.	4-3c nm	11 96	112-10% pm	12.34

Setzien rate ie for convertible francs. Financial Iranc 65.20-65.25c pm. 5is-month forward dollar 1.76-1.71c pm. 12-month 3.30-3,20c pm.

Sapt. 17	sbuesq Day's	Close	One month	7.a.	Three months	p.a.
UKT	2.1260-2.1600	2.1510-2.1520	0.35-0.25c pm	1.07	1.08-0.98 pm	1.91
issiend†	2.0740-2,0770	2.0740-2.0770	0.90-0.70c Pm		2,40-2.00 pm	4.24
Ceneda	1.1624-1.1636	1.1526-1.1529	0.08-0.05c pm		0.28-0.22 pm	
Nethind.	1.9883-2.0010	1.9995-2.0015	0.57-0.47c pm		1.52-1.42 pm	
Salgrum	29.04-29.15	29.071-29.09	To pm-1e dis		2 pm-par	0.14
Denmark	5.2015-5.2230	S.2015-5,2030	7.75-8.25ore dia	-12.45	14.5-15.0dla	
W. Ger.	1.8104-1,8117	1.8107-1.8117	0.91-0.91pf pm		2.47-2.37 pm	
Portuga (49.55-49.80	49.57-49.67	20-30c dia .			-6.65
Sgain	66.03-66,08	68.03-66.07	60-80c dis.			-11.81
ITAIY	814.00-814.50	814-20-814-40	0.10-0.50tire dis		3,40-3,90dia	
Norway	5.0040-5.0090	6.0080-5,0090	0,35-0.15ora pm		0,25pm-0.25d	
France	4,2295-4,2325	4,2295-4,2310	0.13-0.05c pm			-0.38
5 weden	4.2166-4.2205	4,2190-4,2200	0,75-0,55ora pm		0.50-0.30 pm	0.38
Jagen	223, 10-223, 50	223.30-223.50	1.15-1.00y pm	5.77	3.10-2.95 pm	5.42
Austrie	13.039-12.049	13.042-13.047	5.80-6.30gra pm	5.11	14.50-13.00pm	
5witz.	1.6305-1.6315	1.6305-1.6315	1.49-1.44c pm	10.78	4.28-4.23 pm	10.44
† UK and	Iteland are qu	uoted in U.S. c	urrency. Ferware	premis	and disc	DUN15

CUR	REN	CY RA	TES	CURRENCY	MOVE	MENTS
Bept. 14	Bank rate	Special Brawing Rights	European Currency Unit	2cpt 17	England	Morgan Guaranty Changes %
Bterling U.e. S Canadlen 2 Austria Sch Belgian F Danish K I Mark Inulider French Fr Lira Yen Nrwgn, K	14 1012 1214 534 8 11 5 8 912 1012 514	0.686801 1.29834 1.60958 16.9524 57.7882 5.79876 2.55480	0.835150 1.88654 1.80909 18.0961 40.3325 7.25189 2.51295 2.76971 5.87522 1129.90 510.518 e.94562	Starling U.S. doilar Canedian doilar Austrian achilling Beiglan franc Danish hroner Deutsche mark ewiss franc Guilder French franc Lira	81.2 159.1 114.5 116.7 155.3 200.9 124.3	-35.B -8.4 -16.9 +55.0 +14.0 +5.9 +83.4 +19.5 -7.0 -48.6 +25.5
Spanish Pes.	S	85.747e	91.5493	Based on trade we		

Sept. 17	£		į į	Note Rates
Argentina Peso	5080-3100		Austria	9712-2812
Australia Oollar	1.0116-1,8915	0.8895-0.8920	Belgium	6414-6512
Brazil Cruzelro	62.12.62.39 8.27-8.20	28.85-28.03	Denmark	11.10-11.20 0.00-0.10
Finland Merkka Greek Drachme	79.560-81.472	37.10-37.40	Germany	e.es-3.85
Hong Kong Dollar		e.0885-5.0715	Italy	1,770-1,820
ran Rial	150.34-157.8e	70-751	Japan	477-487
(uwall Oinar (KD)	0.588-0.599	0.2772-0.2775	Netharlands	4.90-4.30
uxembourg Frc.	63.05-63,16	29.07-29.09	Norway	10.70-10 85
Malaysia Dollar			Portugal	104-111 1401a-1431a
lew Zealand Dir.	7.15-7.95		Switzerlend	e.45-3.55
Singapore Dollar.		2.1580-S.1610	United States	8.1412-2.16
th. African Rand		0.8316-0.8395	Yugosiavia	4412.4614

EXCHANGE CROSS RATES

7.08592 2.51064 5.79831 2.72077 0.662638 1148.18

Sept. 17	PoundSterling	U.S. Dollar	Deutschem'k	Japan'se Yen	FrenchFranc	Swiss Franc	Dutch Gulid'r,	Hallan Lira	Canada Dellar Bel	gian Franc
Pound Sterling U.S. Dollar	0,465	9.159 1,	3,900 1,815	481.0 283.6	9.103 4.231	3,615 1,635	4,288 t.993	1759. 814.1	2.509	e2.55 28.07
Oeutschomark	0.256	D,552 .	1.	123.5 · · · 1000.	2,534	0,901	. 1,099	449.1	0.649	16.04
Japanese Yen 1,000	2.079	4,473	8.108		18,02	7.302	8,014	. 364 t.	5,302	130.0
French Franc 10	1.099	", 2,364 :"	4,285	828.4 ·	10,	3,860	4,710	1024.	2.749	68,72
3wiss Franc	D.285	0,613	1,110	136.9	2,581	1.	1,221	498,6	0.712	17,81
Outch Guilder	0,233	0.502	0.91D	112.9	9.123	0,819	2,448	408,5	0.284	14.59
Italian Ura 1,000	0,571	1,228	9.227	274.6	e.187	2,005		1000.	1.428	35.71
Canadien Dollar	0,400	0.860	1.658	192.9	3.638	1.404	1,714	700,0	4.000	25.00
Selgian Franc 100	1,599	6.440	6.235	769.0	14.65	5,e16	e.850	2800.		100.

EURO-CURRENCY INTEREST RATES

The following nominal rates were quoted for London dolfer certificates of disposit: one month 12.20-12.30 per cent; three months 12.55-12.65 per cent; exemples 12.55-12.75 per cent; one year 11.95.12.05 per cent.

Sept. 17	Sterling	1.	U.S. Dollar	Canadian Doller	Dutch Guilder	Swiss Franc	West German Mark	French Franc	Italian Lira	Asien 6	Jepanose Yen
7 days' notice. 7 days' notice. Month	153g-133g 141g-143g 143g-161g 143g-151g 143g-15 143g-143g		1112 1134 1159 1178 1239 1318 1276 1212 1276 1878 1276 1878	101g-111g 101g-111g 111g-115g 111g-121g 11g-18,4 11g-11;	934-85a 934-0-9 93-0-6 9-2-9-1 93-8-5 912-8-5	7g-1 t-t14 1;1-1;2 2;c-2;w 2;1-2;0 21a-3	e1g-7 7-71g 71g-714 73g-71g 7%-716 7%-716	1112-1154 1111-1131 1514-1212 13-1314 1534-1550 1556-1366	10-12 111:-121; 13-14 14-16 14-16-1; 15-16	11#-11: 184-12: 184-12: 184-12: 18:-19: 124-12:	6 1 7 1 7 2

Long term Eurodoller: two years 11%-11% per cent; three years 11%-11% per cent; lour years 11-11% per cent five years 10%-11 per cent; nominal closing a. Short-term roles are call for sterling, U.S. dollars and Canadian dollars; two-day call for guilders and 5wise france. Asian rates are closing rates in

INTERNATIONAL MONEY MARKET

Italian bill issue

The Italian Treasury will increase its outstanding debt by L1.5 trillion at the next Treasury hill auction which closes on September 24. The increase in the amount of debt will help to drain tiquidity, but yields are not expected to change significantly. Despite the unward cantly. Despite the upward 8 per cent and 9 per cent are supported in interest rates elsewhere in Europe the Italian Treasury to 11 per cent from 12 per cent f has not yet takeo steps to push up domestic rates while the tirs remains relatively strong within the European Monetary System.

The Treasury is to raise L7.5 trillion through the issue of Treasury hills and certificates. partly to cover the maturity of L4 trillion worth of Treasury bills and L2 trillion of certifi-cates; L3.6 trillion of the bills sre beld commercially with the balance in the hands of the suthorities.

The bills will be sold by anction, and will consist of L2 frillion of six-month bills and L2.75 trillion of 2-month bills; L1.25 trillion of two-year floating rato Treasury cortificatee will also be sold, priced at par from September 28, and L1.5 trillion of three-year floating rate certificates priced at 99.75 per cent from October 1. The certificates will pay interest on a six-month basis, reflecting the average yields on Treasury bills, with the coupon for the first six months guaranteed at a minimum

of 6.15 per cent. SINGAPORE - United Overseas Bank, one of the big four

MONEY RATES

Prime Rote Fed Funde Treseury Salls (13-week Trasoury Salls (26-week)

NEW YORK

GERMANY

FRANCE.

JAPAN Oscount Rate Call (Uncondit Sills: Discount

GOLD

Record

level

the first of the big four to raise its prime rate to \$1 per cent. Severst other banks also in-creased their rates to between Gold continued to rise in the London bullion market yesterdsy, and reached an all time closing high of \$3531-354, s rise of \$81 an ounce from Friday The metal opened at \$3501-3511 PARIS - Call money rose parts — Call money rose to 11½ per cent from 11½ per cent. One-month increased to 11½-11½ per sent from 11½-11½ per cent. and three-month to 11½-12 per cent from 11½-11½ per cent. Six-month and 12-month funds were unchanged at 11½-12 per cent.

and touched \$3514 during the morning before falling back oo some profit taking to \$3491. However renewed demand soon saw the rate climb to an all time high during the afternoon at \$353}-

In Paris the 121-kilo bar was fixed at FFr 49,700 per kilo (\$365.40 per ounce) compared with FFr 49,500 (\$364.05) is the moraling and FFr 48,790 (\$357.91) in the morning.

In Frankfurt the 12½-kilo bar was fixed at DM 20,390 per kilo (\$350.14 per ounce) against DM 20,165 (\$345.90) previously.

run-down balances, there was small excess of revenue pay-ments to the Exchequer over

Government disbursements, and

	Sept	tember 17	: September 14			
	Go	ld Suffice (fina o	uncet			
Opening Morning fixing. Afternoon fixing	\$35034-3511 ₈ \$350.76	(£164.9-164.6) (£162.6-163.0) (£185.749) (£164.408)	\$345.34514 \$345.31634 \$345.75 \$345.80	(£158.4-158.7) (£165.4-155.7) (£158.637) (£158.333)		
		Gold Coins		•		
Krugerrand Maplejeaf	1836834-88434 1887918-3841a	(£1583 ₄ .1693 ₄)	.\$355-358 :\$3701g-3751g	(£1633 ₄ -1643 ₄)		
New Sovereigns	29034-9034	(£424-454)	3881-3012	(\$4034-4134)		
King Soys	. \$1084-1104	(£5019-5112)	210804-11012	£50.511		
Victoria Sovs	2116-118	(£54-55)	\$1154-1174	(E53-54)		
Fr 80 Napoleon 50 pesos Mexico 100 Cor. Austria	FFr415-426 0:5436-437	(SF;160-165)	FF-414-484 \$429-480 \$337-338	(SFr 160-164)		
\$20 Eagles	8480-484		3480 485			
SIO Eagles	\$286-291		5286-201			
CE Canles	19741 -94A		2241.245			

supply and the suthorities gave the market was also faced with a small amount of assistance by the resale by the Bank of Eng.

buying a small number of Trea-eury bills from the discount eligible bank bills. On the other houses, and by lending a small hand there was a small decrease amount to one or two houses, in the note circulation and the overnight at Minimum Lending Rate of 14 per cent.

The large of the Bank of English of a small amount of eligible bank bills. On the other hand there was a small decrease in the note circulation and the bouses were also helped by the redemption of 3 per cent Trea-

sury stock 1979,

MARKET

UK MONEY

rates were unchanged.

help

Bank of England Minimum Lending Rate 14 per cent (since June 12, 1979)

Singapore banks has increased its prime rate by a per cent to \$4 per cent. Last week Develop-ment Bank of Singapore became

cent. FRANKFURT — Call money

rose to 7-7.10 per cent from 6.80-7.00 per cent, but fixed period

Longer term fixed period interest rates were firmer in the London money market vesterday, reflecting the weakness of ster-

ling and the etesdy erosion of ONDON MONEY RATES

Sept. 17 1079	Sterling Cortificate of deposit	Interbank	Authority deposits	Local Auth- negotiable bonds	Finance House Deposits	Com Dany	market deposits	Treasury	Eligibis Bank Bills 4	Fing Trade Silla 4
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the differential between interest rates in the UK and the U.S. and

Day-to-day credit was in short

Banks brought forward small

Local Sunformy and interest and control of the process of the percent five years 122-132 per cent. The percent of the percent

WORLD VALUE OF THE POUND

taken as being applicable to any particular transaction without relatence to an authorised deeler.

Abbrévialone: (Al approximate rate.

Abbrévialone: (Al approximate rate.

no direct quotation evallable: (F) Irse rate: (P) based on U.C. dollar particular (S) and Soing starling dollar rate: (S) member of the starling area other than The table below sives the letest available rates of exchange for the heve been colculated from those of pound against various currencies on loreign currencles to which they are avallable rates of exchange for the September 17, 1975. In some cesca retes 1led. are nominal. Market rates are the exchange in the UK and most of the exchange of buying and selling rates countries listed is officially controlled except where they are shown to be

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Hong Kong (Si	10.855 lcom 77.80 lCD(no) 44.17 811.5 17.64 sql 1,344.7 153.70 0.64846 1.0567 50.40 178t.5 455 s	Puerto Rico	2,1515 8.08 9,1025 1,482 1Cm19.57 1Cc.T26.77 208.73
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Iran Rai Iraq Diner Irlah Republio (k) Irlah £ Israel	153.76 0.64846 1.0667 60.40 1.761.5	Rwanda France St. Christopher 18) E. Caribbean 5 St. Helena Bt. Helene £	208.73
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Jamaica (5) Jemaica Dollar Jepan Yen Jordan (2) Jordan Binar		St. Pierre C.F.A Franc St. Vincent IS) E. Caribbean \$	45518
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exports 90.363. Sessed on green rates equines Russian rouble. **Reta is the transfer merket (controlled), †† Reta is now based on 2 Serbados S \$\frac{1}{2}\$ Now one official rate. (U) United Rate. Applicable on all transactions except countries having a bilateral agreement with Egypt, and are not man (§) Based on cross rates against Russian rouble. • Incentive Reta,

Foreign exchange. We deliver. Competitively. **Test us.**







These are CARIPLO's credentials at 31.12.78:

US\$ 22,900,000,000 deposits and funds administered* (equivalent of 19 thousand billion Italian lire) + 26% in respect to 31st December 1977

438 branches 9,000 employees

including Mediocredito and Leasing Regionale Lombardo deposits and funds

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879.10 870.75 870.90 889.71 878.00 874.15 047.6T

85.50 85.55 85.83 85.82 85.92 84.16 85.70 255.60 265.93 280.88.256.81 266.82 254.65 871.77

107.00 167.40 100.75 107.71 188.05 108.42 789.51 (28/6)

42,000 35,000 39,525 42.620 33.118 54,448 --

NEW YORK-DOW JONES

4 Day's high 884.55 low 868.60

Ind. div. yield X

STANDARD AND POORS

ind. div. yield %

nd. PIE Ratio

ond Gov. Bond Yield

N.Y.S.E. ALL COMMON

TORONTO Composite

JOHANNESBURG

Sept. sept. Sept. Sept. 14 13 12 11 Nigh | Low

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Indices

1079

Sept. 7 | Aug. 51 | Aug. 17 | Year ago (approx

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zindust'is... 121.25 129.12 120.07 118.66 128.42 118.25 121.57 187.06 164.84 E22 (61/6) (62/6) (11/175) (86/6) 55 (61/6) (62/6) (11/175) (86/6) 55 (61/6) (62/6) (11/175) (86/6) 55 (61/6) (62/6) (11/175) (11/175) (11/175) (11/175) (11/175) (11/175) (11/175) (11/175) (11/175) (11/175)

Sept. 13 | Sept. 5

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10.02

0.11

Fresh early Wall St. advance in active trade

PREMIUM \$2.60 to £1—32[% (31]%) Effective \$2.1515 916% (91%)

HELPED BY news that the United Auto Workers and General Moiors bave reached a teotalive contract settlament, avoiding a strike, Wall Street scored a fresh advance in further active early dealings yesterday.

However, the market was some way helow its best level at mideession, with the Dow Jones Industrial Average recording a fresb net gain of 5.03 at 884.13 at 1 pm, after touching 886.77 at 11 am. The NYSE All Common

Closing prices and market reports were not available for this edition.

index was 25 cents higher at \$62 33, after reaching \$62.50, while rises led falls at mid-session by a four-to-three margin. Turnover came to 27.04m shares, against fast Friday's 1 pm figure of 28.71m.

Despite the market's hullish response, analysta said they expected that the aettlement will be viewed as inflationary when details become known and thus

depress market santiment.
Money market analysts have
already predicted that the settlement will lead to bigher interest

NEW YORK

Amer, Airlines

Amer. Cyanamic Amer. Elect.Pow

Ashland Oll....

Auto Data Pro....

Beckman Inst.... 675; Beck hulck ason 345;

Bell & Howell. --

Benguet Cone B

ck & Decker.

to \$521 on the contract news. However, Chrysler, whose finan-cial assistance plan, submitted over the weekend, was rejected by the Government, eased 1 to

IBM gained 14 to \$691. The stating last week that it knew Justice Department said it is of no reason for the recent willing to discuss settlement of sharp rise in its share price. its anti-trust case against IBM. Trans Warld picked up 11 to 8247. Texas International Airlines recently purchased a stake

lo Trans World. Weverhaeuser moved up 7 to 332? on predicting bigher sponal net profits. McGraw-Edison, however, receded \$1 to \$294. It said it now holds 95 par cent of the stock of Studebaker-Worthington, nochanged at \$511. Oak Industries shed 1 to \$291. The company is planning to offer

Responding to Gold hitting another record high yesterday, Handy and Harman rose \$2 to \$29; Engelhard Minerals; to \$49; ASA 1 to \$27; and Camphell Redlake to \$23.

850,000 shares of its Common

THE AMERICAN SE Market Value Index was 0.34 higher at 226.26 at 1 pm after another sizeable volums of 3.40m shares (3.27m).

Exxon 57 56
Fed. Dept. Stores 112 114
First Chicago 124 184
Fixt. Nat. Boston 224 351
Florid Van 154 1814
Florid Van 2814 8214
Florid Van 4814 4214
Florid Powor 4814 4214
Florid Powor 4014 3778

| Newlett Packard | 57 | Neliday Inna. | 21 | 3212 | Nencywell. |

Active Bowmai Instrument some profit-taking in the after-climbed 11 to \$51. It was men-tioned favourably in a weekly All Ordinaries index advanced

Stock

Johns Manville...

Joy Manufacturg
K. Mart.......
Kaiser Aluminum
Kaiser Industries
Kaiser Steel.....

Mapoo 2212 Mapoo 2212 Merathan Oil 2213 Marine Midland. 1934 Marshall Fleid 2256 Marah Melann'n 2254

laico Chemical latenai Can....

MacMillan..... Macy R.H..... Mfg. Hanover....

business paper. Imperial Oil 418 more to a new all time high "A" roze \$1 m \$381. Imperial of 676.77.

expects the Alberta Government to permit the company to start Government in the South Ansits Cold Lake heavy oil project

Canada

Markets remained buoyant yesterday morning in heavy trading. The Toronto Composite index climbed 5.1 more to 1730.0 at noon, while the Golds index advanced 17.6 to 2,114.7 and Oils and Gas 13.5 to 3,374.7. In Montreal, Utilities put on 0.49 to 249.35 and Papers 0.52 to 178.65.

Toronto Industrial, shed i to C\$211 on 181,031 shares.
Among Oil issues, Alberta
Gas "A" gained 1 to C\$271.
Moreen 1 to C\$301 and Hudson's Bay Oil 11 to C\$92.

Bell Canada, the most active

Abitibl Paper, which announ-ed a dividend increase, hardened 1 to C\$201.

Australia Markets remained very strong generally yesterday despits some profit-taking in the after-noon session, and the Sydney

Revion 51a Reynolds (R-J.II) 634 Reynolds (R-J.II) 634 Rich'son Merrell Rockwell Inter 421 Rohm & Nass 431

| Scoulder Duc Cap | 1014 | 103 | 103 | 104 | 103 | 104 | 104 | 105 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 105 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 104 | 10

Southern Co...... Southern Nat Res Southern Pacific

Travelors
Tri-Continental...
Triton Oil & Cas...
Uniter Oil & Cas...
Us Stael.
Us Trachnologies
Uv Industries.
Virginia Elect.
Waigreen.
Wailece Murray.
Wainer-Commn
Warner-Lambert

Warner-Commin | Warner-Commin | Warner-Commin | Waste-Man,ment | Wells-Fargo | Western Bancorp | Western Bnion | Wistinghao Eleo | Wylripool | Whiripool | Whiripool | Whiripool | Whiripool | Whiripool | Whiripool | White Con Ind | Western | Whiripool | White Con Ind | White | Western | White | Western | W

2754

3150 7318 104

tralian State election gave sharp by the year end. gains to companies with Hosky Oil lost 21 to S641 after uranium projects in the State and also boosted shares of gas producers.

Western Mining, up 22 cents st A\$3.60, and other companies with uranium interests in the State rose sharply.

Participants in the Beverlay uraninm venture, now con-sidered a likely starter, forged ahead, with Oilmin adding 27 cents at A\$1.25, Petremin 32 cents at 82 ceots and Transoil 21 cents at 92 cents.

Uranium stocks involved in the Northern Territory projects, however, were steady to easier after sharp falls last Friday when the Australian Council of Trade Unions Congress voted to maintain bans on uranium

mining and exports.

Among South Australian gas producers, Vamgas advanced 7 cents to A\$2.15 and Santos 29 cents to A\$5.14, while Santos's major sharebolder, Bond Cor-poration, moved ahead 14 cents to AS1.51. BHP rose 20 cents to AS10.35.

while Coal stocks were also well supported, with Howard Smith gaining 22 cents to A\$2.68 and Utah 10 cents to A\$4.25.

CANADA

Chieftain-

Cens. Bathurst... 1414

Pan Can Petrol'm 5149
Patino 684 084 084
Piace Gas & Oil 2.57
Piacer il vel'pm's 3419
Power Corp'n 6419
Ranger Oil 55
Resd Stenhous 75
Resd Stenhous 919
Royal Sk. of Can 4114
Royal Trustoo 1119

† Bid. JASked. | Traded.

BH South reacted 20 cents to spiece, while Deutsche Bank AS2.70 after reporting another, although reduced, loss. In the Machine sector, KHD and

Tokyo

After a firmer start, the market reacted on profit-taking to leave a majority of issues lower on the day. Business was moderate, with volume on the First Market section reaching only 200m shares, compared with last Friday's 300m.

A dealer commented that investors were showing cau-tion over the rapid pace of price increases last week when the Nikkei-Dow index bit an all-time high. Yesterday, the Nikkei-Dow Jones Average lost 16.88 to 6.438.12, while the Tokyo SE index shed 0.65 to 454.59 and declines optnumbered gains by 369 to 244 at the

Leading Electricals, Precision Machinery Manufacturers and Pharmaceuticals closed on a weaker note, with Sony shedding Y60 to Y1,910 and Takeda Chemical Y8 to Y502.

Some speculative issues such as Trading Houses and Oil stocks were initially bought on were steady after recent losses.

news that promising oil fields have been discovered in the Continental Shelf off the North-eastern coast of Sakhalin, but these sectors were mixed on

Some Steels attracted instiutional buying with Nippon Steel, Y122, and Kawasaki Steel, Y127, gaining Y1 apiace.

Germany

Share prices finshed with mixed movemants on balance after a session which brokers said started on a quietly easier note but livened up as some institutional and foreign that GDP here should grow by institutional and foreign 12 per cant this year and not investors entered the market. To per case as forecast in the Brokers gddad that they suspected British ingrests of sbopping on the German stock markets to bedge against the markets to bedge against the rapidly weakening pound. The there was subsequent markets the service of th Commerzbank iodex was a mere 1.5 down on the day at 765.6.

NOTES: Oversess prices shown below exclude S premium. Belgien dividends am after withholding lax.

I M 50 denem, unless otherwise stated, yields based on not dividends

Pta 500 denom, unless ethorwise stated. • OKr 100 denem. unless etherwise etated.

\$ SWF: 500 denom, and Beater sheres unless etherwise stated. 1 Y50 denom. unless etherwise stated. 2 Price at time of suspension. a Rerine. b Schillings. Mannesmann each added DM 1, but MAN receded DM 2 and

Babcock DM 1.50.

Predictions by an industry association that production of construction - related machinery would decline in the second half of 1979 did not have a uniform effect on Machine share trading, observers noted, and said the prediction was probably not a significant factor in trading.

Among Stores, Karstadt edded DM 150, while Kaulfhof hardened 50 pfennigs, German pewspapers reported over the week-end that Kaufhof had excellent results in a jubilee sale to mark the department store chain's 100 years anniversary. Motors were reactionary after

recent strength, with BMW losing DM 1 and Volkswagen DM 1.30. Public Authority Bonds eased up to 15 pfennigs in small trading. The Bundesbank sold DM 1m nominal of paper after selling DM 33.8m last Friday. Mark-denominated Foreign Loans

Hong Kong

In the wake of a strong over-night London performance for night London performance for Hong Kong stocks, the market bere staged an initial advance, but a good deal of the gain was later eroded by profit-taking as attention turned to the Gold market. The Hang Seng lodex, up 8 points at its best of the day, closed 2 net 3.96 higher at 1500 87 active 599.87 after 2 fairly active

there was subsequent market disappointment when the session drew to a close with oo new terms emerging. Hutchison finished 15 cents down at Gains were made by Banks terms emerging. Hutchison and some Machine Maoufactinished 15 cents down at turers. Dresdner Bank and HKS5.10, while China Provident Commerzbank put on DM 3 remained suspended. c Cents. d Gividend after pending rights end/or scrip issue. e Per shere. f Francs. g Gross div. "... h Assumed dividend efter scrip end/or rights Issue. k After lecal taxes. m *5 tax free. o Francs incleding United div. o Nom. q Share split, s Oiv. end yield exclude special payment. Indicated div. u Unefficial trading. v Minority holders enly. y Merger pending. *Asked. † 2id. § Treded. ‡ Seller. x Assumed. x Ex rights. xd Ex dividend. xc Ex scrip issue. xe Ex ell. A Interim since increased.

Spain (4) (4) 31.87 III.98 21.07 Sweden (4) 241.80 245.40 601.34 337.41 Switzerid(f) 318.1 317.4 381.1 384.1 (20) (30) (30) (30) Australia (?) 675.77 672.68 676.77 645.72 (17.6) (2.1) Belgium (I) 195.28 195.58 195.00 98.80 Belgium (I) 198.22 196.52 198.00 98.80 (S/I) (3/I) Denmark (** 22.28 98.77 174.5 88.52 (25/I) (8/I) Prance (11) 27.8 98.2 198.2 71.6 (15/I) Cermany (12) 765.5 787.1 828.5 719.4 (15/I) Holland 15/9 74.7 74.5 85.2 71.3 (16/I) (7/I) Hong Kong 599.97 595.21 625.78 483.83 (13/I) (2/I) Japan (c) 454.58 455.24 462.17 485.13 (2/I) Singapore (b) 589.52 400.91 406.30 365.34 (13/I) (13/I) Singapore (c) 589.52 400.91 406.30 365.34 (13/I) (13/I) Lindices and base deter (28 base Dec. 1983. St America Industrial 1970. 37 Hang Seng Benk 31/786 Ill Banca Commerciale Italiana 1972. Il Totyo New SE 4/1/88. 5 Stella Times 1996. a Closed. of Medrid 32 29/12/78. a Stockholm Industrial 1/1/88 f Swiss Senk Corporatios. u Uneval-able.

FRIDAY'S ACTIVE STOCKS Indices and has deter (38 base values 100 except NYSE All Common Strongs 300-1,000; the lest named hased on 1975). † Excluding bonds 400 industriets. § 400 industriets. 40 Utilities. 40 Finance and 20 Transport. † Sydney All Ordinary. | Balgien SE 17/12/83. **Copenhagen SE 17/173. †† Paris Bourse 1981, ‡† Commerchank Transwri.
Mobil
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GERMANY +

Sept. 17 Price + or Div. Yid AFG. 45.5 0.4
Alilanz Versich. 47.5 -5 31.2
SHF-BANK. 199 0.5 28.12
SASF 158.11+0.1 18.76
Bayer 132.4+0.1 18.76
Bayer 132.4+0.1 18.76
Bayer 257 +3 28.12
Cemmerzbank. 204 +5 26.36
Conti Gummi 63.5 - 20.12
Daimler Benz 260.5 28.12
Deguss 247.9 +0.4 25.18
Cemtag. 128 -1 17.18 iu

AMSTERDAM Sept. 17 Price + or Div. Yid

WILDIG IL I'm alesses	DO:0 + 0.2		_
ARZO (FT.20)	62.2 - 0.2		-
Alg'mBk(F1100)		A22	7.
Arney (F1.10)	100.3		3.0
Amrob K (FI,20)	70.2 -0.3	122	7.0
Buenkorf	73.7 0.8	22	7.
BokaW'stm Fl. 18	108.3 + 0.3	85	7.5
Buhrm' Tetter -	32.3 -0.8	07	8.1
Elsey'r-NOU FIRO.	227 -1	he40	2.4
Ennia N.V. 2 rer	147.5%	40	2.0
EurComTatFi10	70.8 0.4	94.3	
Cist-Broc (FIO)	42 -0.3	22	5.4
Heineken (F(25)	21.8	A 14	4.4
Hoog'ne (F1.20)	31.5	_ '	_
HunterD. Fl. 100	88.5 -0.6	1.2	5.3
K.L.M. (FI.100)	101.5 -0.5	43	a.,
Int Muller (F1.20)	31.4-0.7	10	11.3
Nat-Nedins F110	117.4 + 0.B	55	4
RedCr'd2kFI,20	58.0 +0.6	22.5	7.8
Ned Mid Blat FL 60	832 -2	24	3.5
Oce (FL20)	154.2	32	4.5
Van Ommeren.	210.5 + 2.3		2.5
Pakhoed (Fl. 20	38 ⊢0.3		
Philips (Fl. 10)	23.5	12	73
RinSch Ver(F1100	48.8-0.2		
Robeco (Fl.)	171 +0.5	25.4	
Rodamco (FI.25)	104.8 +0.4	3	11.
Rolinco (Fl.30)	144 +0.5	ا م	12.
Rorento (Fl. 60)		s12.5	4.
RoyalDutchF120	145.9xt	33 75	7
	232.0 -0.3		
Blavenburg	122.0 0.5	41.0	2.0
Tekyo PacNidse	120.0	44.80	
Unliever (FI.60).	122.2		6.
Viking Res	58.2 + 0.2		
Volker StynFl.25	77	20	7.
West /Hr Numaki	954 0 6 9	22	4

Abold (FLEC)..... 90.3 +0.2 488 4.9

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Andelsbanken Danske Bank East Asiatic Co. Finansbanken Sypgerler For Papir Handelsbank C.Nthn.H.(Kr90) Nerd Kabel Nove Ind'stri's 8 Oliefabrik Privatbank Soph. Barensen Superfos	137 288 110 1603 282 137 0161 143 1313	2 -14 -7 -14 -14 -14	12 16 10 16 12 12 12 12 10 13 14 13 12 12	7.0 2.9 7.8 10 2 4.2 - 2.1 3.8 7.1 4.2 4.2 2.0 4.0 2.1
VIENNA				
Sept. 17	Price %	+07	Oiv.	Yid.
Creditanstalt Perimoser Selecta Semperit Steyr Daimlor Volt Magnesit	555 276 555 78 209 312	+8 -1 +8	10 9, 32 0	0.9 5.2 2.4 4.3 5.1

TOKYO ¶ Yen - The Yes Sept. 17 14 2.0 12 1.0 82 1.8 20 5.0 12 2.0 12 1.1 12 0.5 18 1.8 52 5.0 12 2.0 15 1.1 13 1.2 Asahi Glass. ..

524 5,570 521 199 176 541 262 459 680 2,250 735 1,080 1,910 2,260 1,080 1,280 10 4.0 11 1.0 8 0.4 12 1.1 10 3.0 10 3.0 20 1.1

BRUSSELS/LUXEMBOURG							
Sept. 17	Price Fra-	+ or	Div. Fra. Net	YId.			
C.B.R. Cement. Oockerfil EBES Electrobel. Fabrique Nat. G.B. Inne Sm Gevaert GSL (Srux L) Hobokan Intercom Kredietbank Kredietbank Soc Gen Banque Soc. Gen. Beige Sofina	2.380 1.068 0.180 5.650 1.150 1.150 1.750 6.730 1.712 7.850 5.120 5.120 5.560 0.220 1.266	+9 +3 +80 +80 -45	95 00 170	3.7 7.8 7.8 8.3			
Viella M'ntagne	44,400	1+4	_	-			

SWITZERLAND &

SAC MEU DERING A	13.008	-40	220	17.5	the same of the sa
Soc. Gen. Beige	1 790		140	7.2	Price + or Div. Yid.
Sofina	2 550		883		
90) II I d	0.000			2.3	Sept. 17 Frs Frs. %
Solvay	/U.220	-13	A2.18	2.0	/
Traction Elect.	2.530	-33	185	7.3	Rente 44 1,387 +2 41ei 0.3
IICE	1 960				Afrique Occ dt. 341 -5 94.75 7.2
No Adla (140)	1-1200		1	I =-	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
un Min. (1/10)	140	-14	40	8.8	Air Liquide 509 +10 16,5 3.5
Viella M'ntagne	11.466	+4	L		BIC 658 -1 16.6 6.5
		• • •	-	•	Bouygues 542 5 51.8 6.8
SWITZERLAN	<i>T</i> • •				
2411178777	LD X				Carrefour 1,770 +15 78 4.4
					C.G.E 375.8 +2 31.5 6.4
	Price	1+er	i Div.	TPIY:	C.I.T. Aicatel 1,230 +41 21 6.7
Sept. 17	Frs.	1 -	2	%·	
30pu - 1	1 1 104			.00	Cie. Bancaire 459 +2 18 5.5
	 		+-		Club Meditere 456.0+0.5 9 8.1
	ł .	1			
Aluminium	1.300	1+10	8	3.1	
BOO IN	1 200				Crausot Loire 72
BBC 'A'	1,220	+8	10	2.5	Durnez 8447 38.76 3.9
CibaGeigy Fr100	1.250	l	22	1.8	
Do. Part Cert.	1.030	í	22	2.2	Elf-Aquitaine 1.070 -30 28.25 8.4
					Fr. Petroles 245 -5 15 2.1
Do. Reg	104	+6	22	2,1	Gen. Ocold'nt'le 303 -2 19 5.9
Credit Sulsse	2.250	-26	15	3.5	
Electrowatt	P 120		7.	6.5	Imetai
FIGGINDAGTI	100	***************************************			Jacques Borel 101.5-0.2
Fischer(Georg).	700	+8	3	3.6	1202.0.0.2
NeffmenPtGert	74,000	1.—250	ľ1 106	1.5	Lafarga 278.5 + 5.4 20.18 7.2
D. 40					L'Oreal 730 +11 22.5 3.0
Do. (Small)	7.072	-22	1 10	1.8	Legrand
Interfood B	4.626	+60	22	2.4	
Jelmoli (Fr. 100)	1 450	_20	21	1.4	Mais ns Phoenix 672 -2 39 8 5.0
		-20			Michelin "B" 903 +2 41.05 4.5
Nestia (Fr.100)		1	. a 3 1.5	2.3	
Do. Reg.	2.360	— 6 -	a.ibai	5.4	
Oerlikon B(F250		<u>_</u> ā			Moulinex 95.0-1.7 3 5.1
			16	1.2	Paribas
Ptreili (F1001	201	1	13	2.1	
Sandoz (F.250)	4.895	+25	62	1.5	Pechiney 95.61.0 7.5 7.8
		J+			Permod Ricard. 291.8'+2.5 9 3.0
Do Part Certs.		}	26	6.4	
Schind'rCtF100	330	}	12	3.6	PaugeotCitroen 292 + 0.5 25.25 2.9
Sulzor Ct (F100)		+4	14	3.5	Pociain 304.8 -6.2
Swissair (F.350)	800	+2	10	4.4	RadioTohnique 585 -3 .50 8.1
\$w,2k,Cp(F100)	383	-1	10	6.2	Redoute 426.8 +2.5 30 7.0
Sw.Reins.iF250	9 670	+78	22		Rhone Poulenc- 126,5 +0.3 10,5 7.5
AM-VOIDE IL VOOL	2,072	1+ 10		1.7	
Union Bank	5,260		20	6.1	St. Gobain 159.4 -0.8 14.65 10.4
Zurich ins	13 900	J		1.7	Skis Rossignol 1,400 -10 50 2.7
		1	1 44	2.7	
. 		1			
					Tolemecanique 843 59.75 3.7
					ThemsonBrandt 252 5 16.2 8.4
MILAN					
					Veinor 15.50
	Price	+ 0-	Div	No.	DO A THE
Sept. 17	Lira				BRAZIL
sahe 13	nus'	- 1	Liro	. Z	
					Price + or (Cruzi Yld.

Sept. 17	Price Lira	+ or	Div. Liro	Yk
ANIC	2,827	-5 -54	185 185	
Finsider	134 21,700 340	+3	-	9.
Montedison Olivetti Priv Pirelli & Co Pirelli SpA	203,25 1,642 2,105 836	-5 +12 -45 -4.5	140	2.
Snia Viscosa	811	14		_

AUSTRALIA Sept. 17 Aust. \$

12.63 12.38 10.36 12.37 12.03

11.26 10.32 10.86 10.12 15.25 11.50 11.04 12.62 10.12 10.73 11.78 10.88 11.88 11.88 11.88 11.88 11.88

+8.91 +0.05 +0.02 +9.01 +9.02 -0.05 -0.05 +0.91

0.07 +0.91

-0.03 +0.02 +0.02 +0.05 -0.05 -0.02 +0.03 +0.02 -0.01

ACMIL (25 cents)

Jones (David) Lennard Oli

STOCKHOLM Sept. 27. Kronor - Kr. 2 10.71 11.00 10.50 12.32 12.08 -0.01 +0.18 12.58 10.34 13.10 13.10 10.93 10.19 11.27 50.0+ +0.02 0.02

Sandvík B' Kri00 S.K.F. '8' Kr.50 Skand Enskilda TandstíkB (Kr60

Velvo (Kr.50)	76	+0.5 -0.5	7	
OSLO .		. :		
6ept 17	Price Kroner	+0	Dly.	Ÿ
Bergen Bank Borregaard Creditbank Kosmos Kreditkassen Norsk HydroKr8 Storebrand	117.75 565.0 ,117.0	+2.2 -0.5 -2.75	5 11 10 11 10	0 101018
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		• ••
		-
JOHANNESBURG		•
MINES		
Sept. 17	Rand	+0***
Angle American Con.	- 0.13	+0.05
Charter Consolidated	- 3.50	-0.06
East Briefontein	16.10	-0.15
Elsburg	2.55	-0.02
Harmony	10.90	+0.05
Kinross	8.25	-0.05
	19.00	-0.10
Rustenburg Ptstinum	3.10	
Southvaal	25.00	+0.25
	16.25	
Gold Fields SA	42.50	-0.30 -0.20
Union Corporation	6.10	-0.20
De Seers Deferred	9.15	+0.05
-Blyvoorultzieht	6.55	
East Rend Pty.	12.00	
Free 2 tate Geduld	36.50	+0.10
President 2rand	25.25	+0.25
President Steyn Stillontein Welken	22.60	+0.10
Weikem	6.00	-0.15 +0.16
West Bristontein	8.30	+0.25
Western Noldings	57.00 " 43.50 · ·	-0.50
Western Deep	20.50	-0.25
INDUSTRIA	ATR.	
AEC		
ACM - MILMITTHE MILLION	4.83	

+0.05 +0.04 +0.05 +0.22	De Beers Deferred 9.15 Styvooruitzieht 6.55 East Rand Pty 12.00 Fres State Geduid 36.50 Fresident Srand 25.26 President Streyn 22.60 Stillontein 6.00 Welkem 930 West Ilriadortein 57.00 Weuten Noldings 43.50	
+0.22	Western Deep 20.50	
• • •	INDUSTRIALS	
Yld.	AECI 4.83 Abercom 2.57 Anglo-Amer. Industriat 18.25	•
0.3 7.2	CNA Investments	
3.5	Edgers Coned. Inv 14.00	ć
6.8	Fed. Velksbeleggings 2.30	
4.8	Hulerte 3.40	
6.7	McCarshy flodway 0.80	
5.5	MedBank	
8.1 7.5	OK Bezzers 9.70:-	
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Financial Rand U.S.S0.89

(Discount of		
SPAIN V		
Soptember 14 P	er cent	
Asiand	109	•
Benco Bilbao	248	-
Bance Central	274	••
Bance Exterior	257	-
8. Graceda (1.000)	134	-
Benco Hispane	242	-
800(Cer(1,000) -	153	-
Beeco Medrid	192	-
2. Santender (250) .	244	
Bcc. Urgulie (1,000)	217	•
Banco Vizesys	261 -	- ,
Sanco Zeregozano	215	h '
Oragados	120	
Espanola Zinc	63 ~~	
Fecsa (1,000)	55.50	
Gal. Preciados	52.50	
Hidrole	62.7S	
Iberduero	57.25 Y	
Petroliber.	83 126 -	-
rendeds	726 _. .1	Γ.

BASE LENDING RATES

	A.B.N. Bank	14 %		Hill Samuel§14 %
	Amro Bank	14 %	_	Hill Samuel \$14 % C. Hoare & Co
	American Express Bk.	14 6		C. Hoare & Co
	Henry Ansbacher	14 6		Julian S. Hodge 15 %
	A P Bank Ltd.	14 %		Hongkong & Shanghai 14 %
	Associates Cap. Corp	14 %		Industrial Bk. of Scot. 141%
	Banco de Bilbao	14 %		Keyser Ullmann 14 %
	Baok of Credit & Cree.			Knowsley & Co. Ltd 151%
	Bank of Cyprus	14 %		Lloyds Bank 14 %
	Bank of N.S.W.			London Mercantile 14 %
	Banque Belge Ltd	14 %		Edward Manson & Co. 15 %
	Banque du Rhons et de	14 %	_	Midland Bank 14 %
	la Tamina C A	11100		Samuel Montagu, 14 %
	la Tamise S.A	144 %	=	Morgan Grenfell 14 %
	Barclays Bank	14 %		National Westminster 14 %
	Bremar Holdings Ltd.	15 %		Norwich General Trust 14 %
_	Brit. Bank of Mid. East			P. S. Refson & Co 14 %
•		14 %		Rossminster 14 %
	Cenada Perm't Trust			Ryl. Bk. Canada (Ldn.) 14 %
	Cayzer Ltd	14 %		Schlesinger Limited 14 %
_	Cedar Holdings	14 %		E. S. Scow2h 15 %
•	Charterhouse Japbet	14 %		Security Trust Co. Ltd. 15 %
	Choulartons			Shenley Trust 16 %
	C. E. Coates			Standard Chartered 14 %
	Consolidated Credits			Trade Dev. Bank 14 %
	Co-operative Bank*			Trustee Savings Bank 14 %
	Coriothian Secs			Twentieth Century Bk. 15 %
	Credit Lyoopais			United Bank of Kuwait 14 %
	The Cyprus Popular Bk.			Whiteoway Laidlaw 141%
	Dudcan Lawrie			Williams & Glyn's 14 %
	Eagil Trust			Yorkshire Bank 14 %
	Eoglish Transcopt			Members of the Accepting Houses
	First Nat. Fin. Corp	154%		Committee.
_	First Nat. Secs. Ltd		-	7-dey deposits 111.7. 1-month deposits 112%.
=	Antopy Gibbs	14 % 14 %	÷	7-day deposits on sums of £10,000
_	Greyhound Guaranty	14 %	•	and under 111,2%, up to \$25,000.
	Grindlays Bank	14%		12% and over £25,000 124%.
2	Guinness Mahon		1	Call deposits ever £1,000 1112%.
_	Hambros Bank	14%	ş	Demand deposits 112%.

EUROF					EXC	HAN	GE
Series	Vel.	Lest	Aor 1s	n. Laurt	Vel.	ril Last	Stock
AKZ C F.25. AKZ C F.27.30 AKZ C F.30. AKZ C F.22.20 AKZ P F.30. AKZ P F.52.50 AKZ P F.52.50 AKZ P F.52.50 AKZ P F.52.50 AKZ P F.52.50 AKZ P F.52.50 KLM C F.100. KLM C F.110	10 2 - - 3 7 - 38 61	0.40 0.10 	1 48 30 3 - 8 15	2.70 0.70 3.50 3 - 7.20 3.10	2 12 3 	5 1.90 	F.28.80 "," F.76.80 F.21.50 \$683, F.100.80
KLM C F.189 KLM P F.100 KLM P F.110 NN C F.115 NN C F.125 NN C F.125 PHI C F.26,50 PNI C F.27,50, PRD C \$235 PRD C \$325 PRD C \$435 RD C F.133 RD C F.133	82 25 50 30 2 13 4	1.40 2,80 8,60 1.60 1 - - - - - - - - - - - - - - - - - -	16 4 56 20 15 41 60 62 29	5.20 0.50 11 5.70 3.70 1.70 0.60 0.10	7 10 108	5,50 8,40 1,10	F.117.40 F.23.50 S287 ₈ F.146.50
RD C F.145 R1 C F.150 RD C F.160 RD P F.140 RD P F.145 RD P F.150 XRX C \$70	78 61 18 	8.70 1.40 0.70 4.60	61 128. 21 1 2 10 10	7 4,80 1,80 1,70 3,80 2,80 88	21 7 -		\$653g
BAZ C 845 BAZ G 550	8 —	478	Pei 2 13	5 če 4 lg		ay _	\$495g
DM C S50	Sep S	115; 11 ₂	_ ne	- =	=	ar. —	\$621 ₂
TOTAL VOLUME	C=Cal			P=Put	14	€p	-

yp	II	ٽ	ذا	5	

COMMODITIES AND AGRICULTURE

Tungsten pact talks break down

NEGOTIATIONS HERE to conclode an international com-modity agreement (ICA) for tungsten have broken down and are unlikely to resume in the near future. The hreak-down occurred

because of continuing wide differences of opinion between major producers and consumers of this metal, which is widely used in armaments manufacture.

An expensive metal, obtained from wolframite and scheelite, tunesten is used in making wre, rod and plate for lamps elec-tronics parts and electrical parts; as well as steel alloys and carbide materials.

The main tungites producers

—China, Bolivia, Australia,
Mexico and Thailand—want an agreement containing substantivo and hinding economic clauses designed to create a reserve stock system. This would be used to maintain the world price of a representativo grade of tungsten between agreed comaximum and minimum limits. The main consumers—led hy the U.S., Britain West Ger-many, Japan and Swedon—want

to go no further than establishing an informal forum for con-..... sultations among consumers and producers. Both sides would meet periodically to discuss general issues concerning the tungsten market such as estimates of supoly and demand, forecasts of price movements. trends and other indicators of market activity.

Welsh increase sheen flocks

By Robin Reeves. WELSH FARMERS have heen increasing their sheep flocks at the expense of cattle, according to a new Welsh Office publication, Welsh Agricultural Statistics. It shows that between June 1975 and June 1977, the total number of sheeo and lambs lu Wales increased hy some 6 per cent to 7.1m. By contrast, the number of cattle and calves fell hy 5 per cent to 1.4m.

There was also a move out of poultry and pigs over the same. period. The poultry flock fell hy 4 per ceut to 7.4m, while the pig herd was down by 6 per cent to 146.000.

The new figures also show a move out of arable crops in Between 1973 and 1977 the area of arable land fell by 6.000 bectares, while that of permanent gross increased by 23,000

Silver surges to new peak

BY JOHN EDWARDS, COMMODITIES EDITOR

SILVER CONTINUED its up. The upward move was boosted Our Calcutta correspondent ward surge in London yesterday, by news that copper stocks beld writes: Silver prices in all the encouraged by the new rise in LME warehouses fell marginary trading centres in India set in New York, silver opened at a record level with the bullion market spot quotation being raised by 32.35p to 628.65p troy on the trend in silver, and a decline in warehouse stocks—tained in later dealings with the cash price ou the Loudou Metal Explance closing at over 64lb. Exchange closing at over 640p.

The market remains highly uervous after the tremendous rise in price. But there is a distinct reluctance to sell in present conditions so any buying interest meets little resistance.

The continued rise in gold and silver, and the weakness of the pound, were the dominant in-

gold and the fall in the value nally—by 525 tonnes to a total have soured to all-time highs of sterling. Following the trend of 157,825 tonnes—when a rise in line with the trend in London

dip in the Penang market over

the weekend.

Other metals were generally decision that the export of profirmer, with the notable exception of lead. There was an or with more than 50 per cent The Indian Government's decision that the export of prosilver content, will be permitted. tonnes in lead stocks raising in respect of all contracts which total holdings to 27,000 tonnes. buyers hefore last March has lent some credence to rumours fluences in base metal markets by 475 to 51,275 tonnes and resumption of silver exports. It aluminium by 500 to 13,900 would prefer to take advantage tonnes. Nickel stocks rose again, of the high international silver by 24 to 6,408 tonnes, while LME closing £26.5 higher at £929 a tonnes. Nickel stocks rose again, of the high international silver by 24 to 6,408 tonnes, while LME silver holdings increased hy country continue. As expected, zinc stocks fell that New Delhi is considering

Coffee producers get together

unexpected increase of 850

Indian ban

DISILLUSIONED WITH the DISILLUSIONED WITH the International Coffee Organisation (ICO) incapacity to promote price agreements hetween exporting and consuming countries, the two major coffee producers, Brazil and Colombia, are seeking ways of co-ordinating common action by all producing countries, either withiu or outside the ICO framework.

Sr. Jaramillo met President American producers' associations in August, 1978, to stabilise prices by means of intervention out the Londou and New York futures markets.

Independent of the ICO, the futures markets.

His mission here was made clear in the joint interview he gave with Sr. Rainho, in which should the organisation continue they hoth criticised ICO and spoke of a common front hy

This was the overall impres sion left by the week-long visit of Sr. Arturo Jaramillo, presi-dent of the National Coffee-Growers Association of ColomSr. Jaramillo met President American producers' associations

to provo unsatisfactory to them. Sr. Jaramillo went so far as to spoke of a common front hy producing countries on prices, quotas and market policy. suggest the formation of a cartel of coffee-exporting countries, Of key importance in the proalong the lines of OPEC.

ducing countries' efforts to main-• The opening session of the tain stable prices on the world ICO executive board meeting hia, to Brazil in a warm-up for market is the so-called "Bogota ended in London yesterday the uext 1CO Council meeting Fund." This consists of a fund in London on September 24.

of \$140m set up by eight Latin weeks of talks

Abaca target levels increased

trading countries have re- lu an emergency consultation instated them at substantially held here last week, the

higher levels, according to the higher levels, according to the higher levels, according to the higher levels, according to the higher levels, according to the Philippines, the main exporter.

UN Food and Agriculture agreed with EEC countries and Japan to reinstate indicative prices are an informal market mechanism, and a floor band 25-30 per cent higher than the price range in high enough to be remunerative force until April when prices tou cif. European ports, up to farmers and low enough to emperative force until April when prices tou cif. European ports, up centres were in operation and manuals of jute bad already been purchased by Government force until April when prices tou cif. European ports, up centres were in operation and manuals of jute bad already been purchased by Government force until April when prices tou cif. European ports, up centres were in operation and manuals of jute bad already been purchased by Government force until April when prices tou cif. European ports, up centres were in operation and manuals of jute bad already been purchased by Government force until April when prices tou cif. European ports, up centres were in operation and sm manuals of jute bad already been purchased by Government force until April when prices tou cif. European ports, up centres were in operation and sm manuals of jute bad already been purchased by Government force until April when prices tou cif. European ports, up centres were in operation and sm manuals of jute bad already been purchased by Government force until April when prices tou cif. European ports, up centres were in operation and sm manuals of jute bad already been purchased by Government force until April when prices tou cif. European ports, up centres were in operation and sm manuals of jute bad already been purchased by Government force until April when prices tou cif. European ports, up centres were in operation and sm manuals of jute bad already been purchased by Government force until April when prices tou cif. European ports, up centres were in operation and sm manuals of jute bad already been purchased by Government force until April when prices tou cif. European ports, up centres were in operation and sm manuals of jute bad already been purchased by Government force in the force until April when prices tou cif. European ports, up centres were in operation and sm manuals of jute bad already been purchased by Gov

ROME — After suspending speciality papers such as tea indicative price levels for Abaca hags and stencil sheets. It is that single floor and ceiling steps to onsure a minimum price last April governments of major also spun into cordage.

The governments also agreed desh. Government has taken that single floor and ceiling price levels would again come of 115 takes (£3.33) per maund of 115 takes (£3.33) per maund for here. returned to uormal in the jute directly from growers and

Using a composite price of jute stocks until prices improve, the three major abaca grades, the Press Trust of India the new indicative price ceiling reported.

Australian wool stocks down again

MELBOURNE — Austra-lian Wool Corporation (AWC) stocks fell further to about 274,000 bales at the end of August from 315,600 at the end of July and 852,000 a year

In its August "Monthly Perspective" newsletter, the AWC noted inquiries continued to be strong, despite the European wool auctions, with sales totalling over 40:000 bales.

Main interest centred on medium and coarser Merino wool types.

Wool exports rose to 702.96m kilos in the 1978-79 season ended June 30, an increase of 16.9 per cent com pared with the previous season, the AWC said. Japan took 11.2 per cent more at 198.75m kilos, while the Soviet Union took 85.57m

kilos—up 7.2 per cent on 1977-78. Haly remained the third largest importer, taking 63.69m kilos, an increase of 4.2 per ceut.

Japanese purchases of Anstralian wool in the first month of the current 1979-80 season rose 79.3 per ceut above the year ago level to 40,000 bales. But AWC noted that July does not always provide a reliable guide to Japanese purchases in subsequent months.

Reports from Japan show the overall level of wool textile activity is still relatively subdued despite recent improve-

AWC noted the improv ment was due to stock adjust-ment rather than consumer spending, which remains sug-

Bangladesh. sets iute 'floor' price

to make cash advances against

EEC AGRICULTURE

Milk surplus could ruin farmers

BY MARGARET VAN HATTEM IN LUXEMBOURG

up its mind-or at least to steer

the Commission gently away from the more drastic measures.

concerning the various alter-

natives, but an unstated pre-

ference can he detected for

voluntary rather than compul-

measures include various pay-

ments to farmors to encourage

them to slaughter dairy cows.

switch to heef production, re-

duce their milk deliveries or

Some of these financial incen-

tives have been operating within

The working document makes

once, appear to be a step ahead next year if something is not of their farmer ministers in done quickly about milk.

realising that the goose that the goose that lays their golden ministers, who may start tame eggs is at death's door. A confidential working document circulating within COPA, the EEC farmers' organisation, are particularly attached" the refers to as "quantumo."

warns members that over-proorganisation has made a study
The paper rules out "quotas" duction in the milk sector ta leading straight to an overhaul

them very hard. It points out that milk now takes np 45 per cent of farm price support funds, and that this is the biggest single factor bebind the growing likelehood that the community will run out of monoy in 1981.

of the whole price support system which could hit some of

Unless effective measures are taken now, it warns, there is a no explicit recommendations very big risk that EEC Governments may decide either to cut tho milk price or to weaken the whole support system. hitting non-dairy sectors at the same

The situation has been clear to most for along time, although it did not prevent farm ministers last June from raising all prices except milk by 1.5 per cent. and from rejecting the processed higher milk tax that might have helped curh ever rising production.

But, notes the COPA naper, creasing milk output. But, sugt will he "politically difficult"

EUROPE'S FARMERS, for good work by raising prices milk they might produce less. The compulsory measures discussed include a continued milk price freeze, milk cuts, a slightly higher milk tax,, incomo aids, limits on investment aids, pering with "those parts of the Commou Agricultural Policy to higher protein feed prices,

> The paper rules out "quotas", that is fixed limits on each inof the various solutions to the problem now before the EEC Commission. The Commission plans to present major propodividual producer, as impossible to administer. But it devotes several pages to "quantums", which it defines as a variable price support system. sals for reforming the dairy sector some time next mouth. COPA evidently hopes to get in with the degree of support linked to production levels. with some proposals of its own before the Commission makes

27

These could be fixed on once Community deliveries had reached a certain level, the price would automatically drop. Alternatively, they could be fixed individually, either on the basio of a farmer's previous output, or more generally, with a certain price for the first 100,000 sory measures. These voluntary the next 100,000 and so on.

A Community wide system says the paper, would be the easiest to run hut would hit hardest those farmers most reliant on FEC intervention. A totally individualised scheme would he the hardest to run the EEC for some time, with would he the hardest to run little impact on the steadily in- while the more general system gests COPA, if farmers could he would hit some regions much ministers to continue the paid more for not producing harder than others

UK dairy profits under fire

get off the laod.

BY JOHN CHERRINGTON, AGRICULTURE CORRESPONDENT

DAIRY FARMERS will be fac. Professor Peter Wilson, BOCM's the present situation which margins over the next few years. Prices are unlikely to be raised, there is no further scope for "green pound" devaluations and cost inflation will reduce revenues of even the most profitable businesses hefore too long.

How to overcome these conditions will he the theme of a series of conferences during the autumn sponsored jointly by BOCM Silcock and the Midland

ing a severe attack on their chief agricultural adviser stated that herd owners snow concentrate on improving the productivity of their herds by maximising herd numbers. Fields, and the utilisation of founded, but the advice given which hasically means encouraging the production of more milk should have some capacity for ing production of more milk increasing efficiency.

> Dr. Robert Bruce, general manager (Agriculture) of the Midland Bank pointed to the Increase of the Community's milk surplus which looked like of this surplus by quota, price

AMERICAN MARKETS

NEW YORK, Sept. 17. 1432.1, Feb. 1442.0, April 1452.1, June THE QUEST for the ultimate highs in 1462.4, Aug. 1472.9, Oct. 1483.0, Occ. 1483.0, Oct. 1483.0, Oct.

could lead to a farm's profit

could lead to even more problems in the future. Britain is no longer an island, the Com-munity surplus is common to all members. Any schemes designed to reduce the burden Bank. Giving a resume of the continuing. He also stressed reduction and so on will luteuscheme in London yesterday the financial consequences of sify the squeeze on margins.

BRITISH COMMODITY MARKETS

COPPER—Moved sheed on the London Metal Exchange, meinly reflecting the weakness of aterimp, but also died by the unexpected full in werehouse stocks. After opening at £305 forward metal gained greund all day to close the late kerb at £325. Turnover 16,950 toppes.

Molal		Unofficial	<u> </u>
919-20 B14-5		929-79 924-5	+26
8.5-9004 BBO	-5.5 -4	907-8	+3+2
in the et £91; 7, 18.5, 14, cnah £67. Ke S. 18, Wireb.	Morn 8, 19, 16, 13, 1 896, 17, 17,	ing cash , three me 15, 14, 18 1, 12, 13, 97, 900, Mimbam, 18, 15, 14 three mi 23, 23.5,	wind on the control of the control of the control of the control on the control o
	819-80 814-5 930 889-8 85-5604 890 sted in the er £91 7. 18.5 7. 14. Coah £ 7. Ke S. 18. Wireb.	\$ 19.20 819-20 889-20 889-20 889-20 890-4 10 10 11 12 12 13 14 13 14 13 14 15 16 17 Wirebarn 22 21 22 21 22 23 24 25 26 27 28 28 29 20 .	919-20 938-70 814-51 924-5 930 869-894 906-7 95-5-8015.5 907-8

TIN Official Hor p.m. Hor or

rise in stocks. After Imding are and 1523 as the early pre-market forward matel fall away an the atochs news to tock the day's low of 1516. However, short covoring prempted a minor relly which left the price at 1520.0 on the late kerb. Turnovar 4,300 tonnes.

INSURANCE BASE RATES † Venhrogh Guaranteed 12.12% † Property Growth 127%

t Address shown under Inserence and Property Bond Table

I.G. Index Limited 01-351 3466. Three month Copper 92: 23 Lamont Road, London SW10 0HS.

1. Tax-free trading on commodity futures.

2. The commodity futures market for the small investor.

CORAL INDEX: Close 463-468

COMPANY NOTICES

READY MIXED CONCRETE LIMITED 71% Bonds 1987 FF 80,000,000 Notice is hereby given to Bondholders of the above loan that the amount redeemable on October 25, 1979, i.e. FF 4,000,000 was bought in the market.

Amount outstanding: FF 57,600,000.—
Trustee: The Law Debenture Corporation Limited
Principal Paying Agent: Kredietbank S.A. Luxembourgerise
Luxembourg, September 18, 1979.

M.I.M. **HOLDINGS** LIMITED 150 Ann Street, Brisband, Original Application

Notice is hereby given that the register of Members of the Company will be closed from October 12th to Cataber 18th 1979, both debts includes, for the purpose of preparing fividend lists and bonus share insule benticenteria.

Transfers will be received us to 5 m.m. Thersday October 11th 1979 at the above address.

By Greter of the Socret.

By Greter of the Socret.

Secretary mber 13th 1979

NOTICE IS NEZERY GIVEN that the TRANSFER BOOKS and REGISTER of TRANSFER BOOKS and REGISTER of TRANSFER OF TOWN THE 26 OCCUPANY 1979 be CLOSED from the 26 Occupany 1979 be Chosen 3 November 1979 (both dates Order of the Board of Directors. 162 Helborn Bars. London 6G1N ZNH. 13 September 1979.

Mortice of Meeting, the Annual General Meeting of members of The Cremation Society of Great Britals will be held at Woodcut House, Astrond Road (A20720). Nothingbourne, Maidstone, Kent, ME17 LXM, on Tauriday, 11th October, 1979, 24 12 hoos. Assuat Report, Iree, on application to registered office of the Society. DAVIES & METCALFE LTD.

NOTICE IS HEPERY GIVEN that the TRANSFER BOOKS of the Company will be CLOSED from 24th September, 1972, both dates inclusive. By Order of the Board. Injector Works, Romiley. Cheshire.

CHAIRMEN

COMPANY REPORTS BY T.V. Communicate your company report by using a T.V. pre-sentation of the year. You can speak to all your shareholders and staff (worldwide). TELLECOM TELEVISION 01-403 2696

Morning: Three months £344, 43, 44, 42, 43, 44. Kerb: Cash £334. Afternoon: Three months £344, 43, 44. Kerb: Three months £344, 45, 44.S. ALUMINIUM—Higher in quiet trading with the merket deminated by currency cotaldorations. Forward metal roas from £734 to touch £741 befare closing the late kerb et £735. Tamover 3,400 tonnes. a.m. + or p.m. 1+or

Morning: Three menths £741, 40, 38, 37, 36, 35, 37. Afternoon: Three months £738, 35. Kerb: Three months a.m. + or p.m. Official - Unoffici's

8630-40 +50, 2645-55 +68 9704-5 +48.5 2715-80 +62.6 Morning: Three months £2,720, 15, 05. Karb: Three months £2,705, Afternoon: Three months £2,705, 10, 30, 20. Kerb: Three months £2,725. SILVER

Silver was fixed 32.15p an ounce higher for opot delivery in the London buillen merket yesterday et 528.45. U.S. cant equivalente of the fixlag lovels were: epot 1.340c, ap 40.0c; three-month 1.370.0c, up 40.2c; eix-month 1.385.1c, up 43.9c; and 12-month 1.409.1c, up 43.9c; and 12-month 1.409.1c, up 39.8c. The metal opened et 615-26254 (1.330-1.350c) and closed at 6372-642-p (1.305-1.380c).

NICKEL

Busion + or LM.E. + or flying price -6pot 528.65p +82.3 540.20p +45.7 0 months 646.10p +83.3 657.00p +44.2 6 months 656.80p +83.3 12months 673.50p +84.7

IMPORTED—Whest CWRS No 1
132 per cent anquoted. U.S. Oark
Narthern Spriag No 2 14 per cent
Sept. 109.15, sz-Gulf ports, Sept.
101.90, Oct. 102.75, Nov. 13.16 exLakes, transhipment east coest. U.S.,
Hard Winter 132 per cent Oct. 103.15,
Nov. 104.30 transhipment east coest.
EEC unquoted.
Meites: U.B./Franch Sept. 109.75 transhipment

LEAD Official - Unofficial - September 14 la ZEALANO CROSSEREDS—Class (In Yesterd'ye +or Yesterdys +or M nth: close - close -Sept. 93.70 +0.25 90.85 Nov. 26.40 +0.50 93.45 Jan. 100.40 +0.15 97.40 Mar. 103.50 +0.25 100.40 May 106.60 +0.25 103.40 +0.85 8ueiness done-Wheat; Sept. 93.60-93.40, Nov. 98.45-96.15, Jan. 100.40-100.15, March 103.50-103.30, May 106.60-106.40. Sales 116 lots of 100 tonnes. Barley: Sept. 90.90-90.55, Nov. 83.45-93.25, Jan. 97.40-97.15, March 100.40-100.30, May 103.40-103.30. Sales: 162 lots of 100 tonnes.

COCOA Futares append aschanged despite a wasker close in New York on Fridey. The decilae of Storling accounting for the markets firmness. Predacers remelaed withdrawn and e duli physical merket was reected in o low volume on the terminal market. As Olarimg recovered leter in the day the market moved lower but the long liquidation was not austained and after a decline of £30 frem less night's levels values recovered to close in the middle of the day's minge, reported Gill and Duffus. Yesterdy's + or : Business

Robustas openad £15-£20 higher prompted by turther etrength in the "C" Contract market and early currency weekness; raported Orezi Burnham Lambert. For most of the day value uctusted in a narrow maga but in fairly good volume with business well matched by tredo an both sides of a ateady market. Prices finland with gains of ap to £18 an the dey.

___. 1845-1855 + 15.0

Salas: 8,113 (7,123) lots of 5 tonnes. ICS indicator prices for September 14 (cente per pound): Other Mild Arabicae 206.83 (206.17). Robustas ICA 1976 190.00 (189.50). ICA 1968 190.25 (189.75). Unwashed Arabicae 210.00 (209.00). Comp. deily ICA 1968 204.89 (204.11). RUBBER The London physical merket opened etendier, and was lair throughout the day closing on an eaglar note. Lewie and Peat reported a Meleysian godown orice of 280 (278) casts a kg (buyer, October).

Oct. — 11.0 11.5 03.5 11.0 12.76-11.5 12.76-

Sales: 806 (459) at 15 tonnes, 12 at tonnes. 5 tonnes.
Physical closing prices (buyer) wars:
Spot 61,25p (61,00p). Oct. 64,00p
(sems), Nov. 64,75p (sems). WOOL FUTURES LONDON GREASY—Close I'm order gyar, seller only). Oct. 218.0, 33.0; PRICE CHANGES

characteristics of the constant of the constan ore needed in Seatons to onside toomakers to continuo quoting if busi-ness does revive, tredare seid. Price increases as far have offected coarser crossbreds and more than bayer, sellar, business, sellas). Micros contract: Oct. 413.0, 414.0, 413.5-413.0, 12; Oct. 423.0, 424.0, 424.0-423.0, 38; Morch 433.0, 433.5, 434.5-432.0, 152; May 437.5, 438.0, 438.0-438.0, 118;

12: 08: 43:0, 42:0, 42:0, 152: Morch 433:0, 43:5, 434.5-432:0, 152: May 437.5, 438.0, 438.0-438.0, 118: 1314 438.0, 439.0, 442.0-439.5, 34: Det. 439.0, 443.0, 443.0-441.0, 28: March 444.0, 445.0, 444.0-44.0, 2 9ales: 422. SOYABEAN MEAL Yest'rd'y +or Business Close Done

Salen: 82 (264) lots of 100 tonnes. SUGAR .

LONDON DAILY PRICE (rew augar):
£120.00 (£117.00) a tonna cil far Sapt.Oct.-Nov. shipments. White augar
daily price was £128.00 (£125.00).
Currency lactom lifted opening prices
osme50-75 points obove pre-weetend
lavels. Later New. Yark quotatians
moved sherply upweids and prices
gained up ta 200 points lallowing
strang arbitraga buylag which lifted all
the 1980 accounts to new libe-of contract highs. However aoms acattered
profit teking pared the gems somewhot
at the close, reported C. Czernikow.

MEAT/VEGETABLES

MEAT VEGETABLES

MEAT COMMISSION—Avanaga fatatock prices at representative merkata
an September 16. GB—Cettle 78.78p
per kg.l.w. (~1.98). UK.—Sheep
134.8p per kg.ext.d.c.w. (~2.2).
GB—Piga 55.6p per kg.l.w. (+1.1).
England and Wales: Cattle aombero
down 8.4 per cent. average prico
76.57p (~2.40). Sheep down 11.0 per
cent. average 135.9p (~2.2). Pig up
2.1 per cent. average 65.7p (+1.2).
Seotiand: Cattle down 16.5 per cent.
everage 77.55p (~0.38). 6heep down
6.6 per cent. average 22.2p (~0.9).
Pig down 11.7 per cent, average
88.5p (+0.9).
SMITHETELD—Peace per pound Beet:
Scottish killod sides 60.0 to 65.0; Ere
hindquertere 68.0 to 73.0, forequarters
42.0 to 44.0. Vest: English fats 69.0 to
76.0 Outch hiads end ends 94.0 to
102.0. Lamb: English mail 54.0 to 55.0,
medium 52.0 to 56.0, heavy 48.0 to 52.0;
Scottish medium 52.0 to 56.0, heavy
48.0 to 52.0. Imported trozen—NZ Pt.
48.5 to 49.5, PM 47.0 to 48.0. Perk:
English under 100ths 38.0 to 45.0,
100-1201bs 37.0 to 44.0, 120-1801ba
36.0 to 43.0. Grozee: Young, best
(each) 280.0 to 390.0.

NEW YORK, Sept. 17.

THE QUEST for the ultimate highs in practious metals is under way. Both gdld and silver were limit up. September alliver, not subject to limit trading, was up \$1.00 per ounce on (despates) abort.covering. The inflationary psychology in the practious metals moved into other markets each as copper, greine and coyabeans, where nabody wanted to be short despits the sheence of any bullish news. Copper benefitted size from the General Mators lebour contract sattlement. Heavy trade buying lad to higher cotten and sugar prices. The livestoch complex was shelply lower to limit down on reports of cash market weakness. Coffee was mixed in o featureless trade, Nomald mportod.

Potatoes (reund whires)—Nov. 61.0 (91.5), Maich 69.7 (72.2), April 87.0, May 98.0, Sales 935.

**Silver—Sept. 1423.0-1427.0 (1335.0). Oct. 1371.0), Nov. 1380.5, Oct. 1371.0, Jaly 1483.8, March 1406.5, May 1416.5, July 1426.3, Sept. 1435.9, Dec. 1390.0 (1315.0).

**CHICAGO. Sapl. 17.

**Lard—Chicaga loose 2:50 (72.25). New York prime steam 27.00 (28.55). Tis. (12.65-71.15). Live Cattlle—Oct. 69.12 (70.62-68.12).

**New York prime steam 27.00 (28.75). Live Cattlle—Oct. 69.12 (70.62-68.12).

**New York prime steam 27.00 (28.75). Live Cattlle—Oct. 69.12 (70.62-68.12).

**New York prime steam 27.00 (28.75). Live Cattlle—Oct. 69.12 (70.62-68.12).

**New York prime steam 27.00 (28.75). Live Cattlle—Oct. 69.12 (70.62-68.12). Sapt. 17+ or Month Tin Cash......£5,970 +52,5£0,565 5 mthe......£5,862.5 +46 £5,627.5 Tungsten......\$159,86 700.00 exkad (700.00-725.00) exkad (700.00-725.00).

CHICAGO. Sap1. 17.
Lard—Chicaga loose 25.50 (25.25).
New York prime steam 27.00 (28.75).
Live Cattle—Oct. 69.12 (70.62-69.12).
Dec. 71.05 (72.65-71:51). Jan. 71.17.
Pab. 70.90. April 71.20-71.17. June 71.85-71.90. Aug. 71.00-71.10. Oct. 70.00. Occ. 71:00. Sales 9.958.
Live Hops—Oct. 37,60-37,65 (33.17).
Type 13.57.38.65 (33.17).
Type 13.57.38.65 (33.17).
Type 13.57.38.65 (33.17).
Type 13.57.39.39 (33.53.37).
Type 13.57.39.39 (33.53.37).
Type 13.57.39.39 (33.53.37).
Type 13.57.39.39 (33.53.39).
Type 13.57.39 (3 onut (Phil). \$940.0m Grains Barley Futures £93.45 French No3AM £110.50 +0.5 £107.76

Other commodities | -16 E1,523 | -16 E1,523 | -16 E1,524 | -16 E1,525 | -16 0.£1,442.0 | -16 E1,525 | -16 0.£1,442.0 | -16 E1,525 | -16 0.£1,442.0 | -16 0.£1,442.0 | -16 0.£1,442.0 | -16 0.£1,442.0 | -16 0.£1,442.0 | -16 0.£1,442.0 | -16 0.£1,442.0 | -16 0.£1,442.0 | -16 0.£1,442.0 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0.£1,523 | -16 0. **EUROPEAN MARKETS** EUROPEAN MARKETS

ROTTEROAM, Sapramber 17.
Wheat—U,9. No. Two Oark Hord Winter whaat 13.5 por cent. Nev. S20.
Oac. \$207. Jan. \$212. Feb. \$214. March \$218. U.S. Nard Winter Whoat ordinary unquotad. U.O. No. Two Red Winter wheat Saot. \$132. Oct. \$133.
Nov. \$197. Dec. \$202. U.S. No. Two Narthern Spring wheat 14 oat cant. Sept./Oct. \$200. Nov. \$202. Oec. \$135.
Jan. \$218.50. Feb. \$219.50. March \$211. Jan. \$218.50. Feb. \$219.50. March \$211.50. April/Mov \$202.
Malze-Sopt. \$136 treded, April/Juns \$149. seaters—U.S. Two Yellow Gulfports Sept. \$301. Oct. \$21.25. Nov. \$219.50. Dec. \$133. Jon./March \$148. April/Juns \$149. seaters—U.S. Two Yellow Gulfports Sept. \$301. Oct. \$21.25. Nov. \$191.50. Oec. \$297.75, Jan. \$302.50. Hillo \$192. 1998. August \$1220. 1325. Oct. \$21.25. Nov. \$191.50. Oec. \$297.75, Jan. \$312.50. May \$313.75, Juno \$15.50, Nov. \$136.0. Nov. \$136.0. 1374. Saloa ar \$213.50. May \$313.75, Juno \$15.50, Nov. \$136.0. Nov. \$210.1374. Saloa ar \$213.50. May \$213.75, Juno \$215.50, Nov. \$213.790. 1998. August \$1220. 1325. Oct. \$213.50. May \$213.75, Juno \$215.50, Nov. \$216.0. Nov. \$216.0. \$217.0. \$216.0. \$217.0 * Nominal. † Newcrep. ‡ Unquoted z Sept. w Sept. Oct. x Oct. y Oct-Nov s Nov. x Indicator. § Ruyer. COVENT GARDEN—Prices in aterims por packoge axcept whore otherwise anted. Imported produce: Oranges—South African: Valoncias Acceptage Prevage 3.80-4.30; Crezilian: Peroz 2.50-2.90, Valoncia Lates 64/144.
3.20-4.40. Lamona—Italian: 100/150's 6.00-6.50; Spanleh: Trays 2.40-3.20; South African: 2.00-11.00; Brazilian: Hall-boxes 4.00-4.50; Tarkish 100/170 6.80. Grapefruls—Daminicen: 23/65e 9.00-10.50; Hondores: 40's 8.50; Jenalean 9.00-10.00, Apples—French: Golden Oeilcioue, new crop, boxes 40-15 150/175 3.80-4.00; 20-15 2.00-2.20; jumblo pock 31-15 2.70; Teamenten: Grenny Smith 3.00; Spanlsh; Orenny 6mith 40-16 6.30-6.50. Peara—Spanlsh: Villiams per pound 0.14; Fronch: Williams 28-16 3.50, Packhams 2.80; Alexandrines 2.00; Italian: Williams per pound 0.10; French: Gagea 0.12. Grapes—Cyprus: Saltana 0.25, Thompeon 0.30, Rozaki 0.20; Italian: Stanley per pound 0.10; French: Gagea 0.12. Grapes—Cyprus: Saltana 0.25, Thompeon 0.30, Rozaki 0.20; Italian: Regina 10-16 2.00-2.20. Spanlsh: Almana 2.00-2.20, Black 2.50. Nectarinss—Italian: C/B/A'a 5.00-8.50. Hongos—Spanlsh: Yollow haseydow 10 hilds 5/14; 2.20-3.00, grasar 2.50-2.80. Avocados—South African: 4.30-4.50. Melons—Spanlsh: Yollow haseydow 10 hilds 5/14; 2.20-3.00, grasar 2.50-2.80. Spanlsh: 3.00-3.50; Ourch: 2.40. Tomatoss—Jarsey: Per tray 1.00; Guennssy: 1.20. Cabbages — Durch: White, net 2.50. Peaches—Italian: 1's trays C's 3.00, B's 3.00, A's 3.80. Judges 0.05-0.07, Oiscovery 0.08-0.08, Millam 0.05, Walcestur Pearmain 0.05-0.08, Tydamen's 0.04-0.05, Oarby's 0.04-0.06, Cox's 0 range plopin 0.10-0.13, Peara—Per peand 2.007-0.06, Cox's 0 range plopin 0.10-0.13, Peara—Per peand 3.007, Virtorias 0.12, 0 manans 0.12, Perobores 0.06. Teatstose—Per tray 1.00. Cuolumbers—Trays 8.08. 2.00-2.00. Peasa—Per o oand 3.00 cartons 18/24° 2.40-2.50. Peasa—Per sound 0.10. Oalons—Per beg: 2.00-2.20. Picklars 2.50-2.80. INDICES

MOODY'S Carrots—Per beg 0.80-0.80. Beetroot— Per beg 0.70. Capsicums—Per poand 0.30. Swedee/Tumips — Per 25/28-1b 0.80. Stick Bass—Per pound 0.10-0.12. Sprouts — Per poand 0.10-0.12. Cabbages—Par bag 0.90-1.00. White 1.50. Cobnuts—Per paand 0.35. COTTON

considerably higher. After a heattant stant, bright and good medium East African teas earn in for keen composition and put on several peace. Leasur mediams moved by to 3p lower, but clean plain teas elayed fully firm. Quectations for the week; Quality 140p per kila (130p); Mediam 103p (56p); Plain 62p (62p).

DOW JONES Dow Sept Sept Month Year Jones 14 13 ago ago 8pot ... 406.70 407.21 401.49 380.65 Ftur's 416.91 413.30 411.76 378.66

(Averago 1924-25-28--100)

REUTERS

1620.7 1611.0 1079.4 1484.2

FINANCIAL TIMES Sep. 14Sept, 15M'nth ago Year 880 291.46 890.28 887,30 253.63 ,dase: July 1, 1952-100)

Sopt.14 Sept. 15 M'nth ago Year ago 1119.0 1118.1 1071.6 939.0

LIVERPOOL—Catton abinment sales amounted to 158 tonnos. Modest spemilione continuad, with most users allowly anticipating parchases of American-type varieties. TEA AUCTION

GRIMSBY FISH—Supply fair and demand good. Prices at ship's side (angrocessed) per etone: Shelf cod (angrocessed) per etone: Shelf cod (A.80-f8.00, codings £2.90-f2.60, Large heddeck £4.70-£5.80, mediam £2.00-£4.80, amoll £1.20-£2.40, Large plates £5.00-£5.80, medium £4.00-£6.00, best smoll £3.60-f2.50, (medium) £10.00, Saithe £2.20-f2.50. LONDON TEA AUCTION — 49,735 chasts waro offered at yesterday's auction. New season Assem CTC's oold very well with the best sorts

FINANCIAL TIMES STOCK INDICES

Sept. Sept. Sept. Sept. Sept. Sept. Sept. A yes

Government securities weaken afresh as sterling falls Equities again subdued by engineering troubles

Dealings tions Dealings Day to end 1.7 down at 456.0, after Aug. 28 Sep. 6 Sep. 7 Sep. 17
Sep. 10 Sep. 20 Sep. 21 Oct. 1
Sep. 24 Oct. 4 Oct. 5 Oct. 15
Oct. 8 Oct. 18 Oct. 19 Oct. 29

"New time" dealings may take place from 5.30 am two business days issue were reinvested to end 1.7 down at 466.0, after baving shown a loss of 2.3 at 2 pm.
1solated low-coupon British funds resisted the general tendency as proceeds from the matured Electric 3 per cent 1979 issue were reinvested.

because of the currency situation 1982, up 1 at 871. Corporation and of suggestions that interest stocks, however, followed the rates may well remain at the trend set by the main funds and present wilds lared for some time. present crisis level for some time found the market unwilling with huyers going to ground and protectively lowering

In sensitive trading conditions, attempts to recover were generally short-lived and longer-dated stocks closed at the session's worst with falls ranging to \(\frac{1}{2}\). At the shorter end of the market, rallying efforts were more spirited but here, too, they arrowed to be shortly and in more spirited but here, too, they ment currency, but after rising proved to he abortive and in trade after the official close prices had returned to around higher on balance at 32; per the days lowest.

improvement in export prospects following the recent slide in sterling. Business contracted again and this in itself added to the market's current bout of

The usual crop of weekend Home banks reacted from Press tips failed to revive enthusiasm although Decca benefited from apeculative interest whetted by newspaper comments Barclays ended that much lost the particular of the provided of the provided of the particular of the provided of the provided of the particular of of hid possibilities. Just hefore at 422p, while Lloyds eased 5 to the close, leading shares began 310p and Midland, 372p, and to harden on book-squaring operations in front of the August 2 respectively. Foreign issues,

Ex're'se Closing price offer

Ontion

Land Sees. Marks & Sp. Marks & Sp. Shell Totals

Option

First Declara Last Account

Option

FT 30-share index rallied slightly

dency as proceeds from the matured Electric 3 per cent 1979 issue water. Government stocks viewed chequer 3 per cent 1981 was a yesterday's renewed fall in sterling with some apprehension and weakened accordingly. Fresh selling from bolders nervous because of the currency situation closed a point down in places. Latest developments in the Zimbabwe Rhodesia talks caused holders of Southern Rhodesian honds to become restless and

light selling brought prices down; the 2½ per cent 1985-70 fell 5 points to £85, while other losses ranged to 4 points. Institutional demand coupled with the effects of a lower pound produced higher rates for invest-

me daya lowest.

Meanwhile, equities began tha second leg of the trading Account in subdued fashion with attention still focused on the engineering dispute, an influence which completely annulled the and with last week's daily average of 228. Cons, Gold were relatively active with 57 deals.

Banks lower

Vol. Closing

Vol.

18

14 14

11910

246p

379p 149p

LONDON TRADED OPTIONS

Vol.

however, mada good progress belped by the decline of sterling. Compagnie Bancaire, £50½, and Algemene, £79, rose around 4½ points and Deutsche advanced 2½ points to £72½. Rambros lost 4 to 330p in dull merchant banks where Antony Gibbs, ahead of tomorrow's interim results. softened a penny to 49p. Hill Samuel gave up 2 to 101p and the Warrants relinquished 5 to

Insurances plotted an irregular course in thin trading. C. T. Bowring gained 3 to 129p but Willis Faber receded 2 to 223p; the latter's interim results are due today. London and Man-chester declined 4 to 136p. Breweries and kindred issues

began the second half of the Account quietly with most counters tending to lower levels due to lack of attention. Irish Distillers provided an isolated firm feature, ending 3 up at 90p on currency influences.

Quiet conditions persisted in the Building sector. Among the few noteworthy movements, Crouch Group moved up 5 to 88p in response to favourable Press mention, but the warning about second-half profits left Federated Land 2 cheaper at Profit-taking after recent good rise on the bid approach from Harrisons and Crossield prompted a reaction of 3 to 240p in Parker Timber.

Leyland Paint eased 2 to 58p awaiting Thursday's interim statement, while lower half-yearly profits left JB Holdings a

Among Chemicals, ICI drifted off a few pence to 352p while news of two Australian acquisi-tions failed to help Fisons, 3 cheaper at 247p.

Cope Sportswear firm

Leading Stores drifted lower on lack of support. A firm market of late on hopes that Lonrho may make an offer for the outstanding shares, Honse of Fraser cheapaned 2 to 154p, while Gussies "A" closed 6 lower at 396p. Ahead of tomorrow's interim figures, UDS softened 2 penny to 91p. Elsewhere, buyers came for Cope Sportswear and the close was 4 higher at 42p, while MFI hardeoed 2 to 170p in response to Press comment. For a similar reason, Home Charm were sup-ported initially up to a 1979 birth Tayener Rulledge. a depressed market of late following the of 139p before profit-taking ensued to leave an unchanged close of 134p.

Shoes closed higher in places: Lambert Howarth attracted sup-port and closed 5 up at 54p, while revived bid bopes belped Stylo Ward White bardened s penny to 93p; the interim results are due on Friday.

Weekend Press comment sug-gesting a possible bid prompted renewed demand for Decca issues, the ordinary rising 55 to 330p and the "A" 33 to 293p. Other bright spots in the Electrical sector included Automated Security which responded to favourable Press mention with a rise of 11 to 192p and Telephone Rentals, a few pence dearer at shares 3 down at 310p. Else-212p for a similar reason. On where, publicity given to a the other hand, Farnell en-broker's circular belped De La countered fresh profit taking and Rue put on 10 to 535p, while gave up 11 more to 255p, while Low and Bonar improved 3 to AB Electronic lost 6 to 198p and 178p in response to the interim MK Electric 4 to 238p. Among results. J. F. Nash Securities

MK Electric 4 to 238p. Among the leaders, Thern remained overshadowed by the disappoint ng increase in profits for the first four months of the current year and reacted further to 423p before settling at 426p, down 7 on balance. EMI, however, firmed 3 to 91p on bid hopes. Engineering lesders were

inclined easier in subdued trading. John Brown eased 2 to 75p and falls of a like amount were marked against GKN, 266p, Hawker, 178p, and Tubes, 300p. Secondary issues followed 5 similar trend; Henry Sykes were lowered 5 to 60p on the sharp fall in the half-yearly profits. while scattered offerings ahead of Thursday's interim statement left Stone-Platt 4 cheaper at 72p. The rather gloomy statement on the trading outlook which accom-panied the half-yearly figures prompted duliness in Ransomes Sims, down 5 at 138p. In con-trast, Simon Engineering, 260p. sims, down 5 at 1359. In contrast, Simon Engineering, 260p, up 3, and Laird Group, a penny dearer at 82p, responded to encouraging trading statements. Snoradic selling left Capper-Nettl 4 lower at 55n and Pegler-Hattersley a similar amount down at 140p. Molins eased 3 to 125n; the half-yearly results are due tomorrow.

Foods and the leaders ended little changed on last Friday's closing levels. Rowntree Mack intosh gave up a few pence to 188p ahead of tomorrow's midterm atatement, while Associated Dairies slipped 5 at 255p. Press comment prompted early interest in Sainshury which resched 310p before easing to close at 307p for a net loss of a penny. Although the reduced interim profits were deemed disappoint-ing. United Biscuits held up and interim results, rallled 4 to 45p.
Bernard Matthews gave up 3 at
317p awaiting today's half-timer,
and Associated Fisheries fell 4

Among lacklustre Hotels, Ladbroke, at 181r., cave np 4 of Friday's gain of 7 which stemmed from speculation about a huyer for the company's casino.

De La Rue better Interest in the miscellaneous

Industrial leaders was at a low ehb and prices generally drifted lower on lack of support. Boots gave up S to 189p and Turner and Newall relinquished 2 to 127p. Comment on Pilkington's £120m European acquisitions left the added 5 to 80p as did Wade Potteries, to 61p, while Christies International appreciated 4 to 140p. ICL came on offer at 480p, down 16, while Photo-Me lost 10 to 320p and Valor dipped 5 to 72p. Still reflecting last week's disappointing interim results, Booker McConnell lost 4 more to

Black and Edgington rose 2 to 70p following the interim results. Elsewhere in Leisure issues, speculative attention was directed toward Howard and

Wyndham, 3 up at 23p.

The current engineering troubles together with uncertainties over BL resulted in a continuing easier bias among Motor tinuing easier hias among Motor Components. Dowly shed 5 at 307p, while Auctomotive Products, 84p, and Armstrong Equipment, 57p, eased 2 apiece. Jours Woodhead, on the other band firmed a few pence to 104p after favourable Press comment. Elsewhere, Rolls-Boyce at 70p, gave up 1; ahead of today's interim statement, while ERF dipped 3 to 89p.

Quietly dull conditions pre-vailed in leading Properties with Land Securities softening a penny to 2990 with the 64 per cent Convertible 6 points down at £192. Elsewhere, Percy Bilton gained 3 to 236p ahead of the interim results due on October 1, while Fairview Estales lost 5 more to 232p and County and District declined 4 to 200p.

BP improve

Week-end Press comment suggesting that the Government sell-off may be smaller than originally expected caused firm-ness in British Petroleum which closed 10 dearer at 1190p. Shell hardened a few pence in sym-

Activity in the Textile sector remained at a low cbb and the price trend was narrowly easier. Speculative favourite Sirdar fell 3 to 112p, while Press comment doubled interim dividend and failed to belp Montfort which almost trebled profits.

closed a penny off at 77p.

Bats met support among
Tobaccos and the Deferred added 3 to 283p, but Imperial eased

shade to 91p. Western Mining good

Already firm in the wake of the National Mutual Life bid for Broken Hill South and a gint of extremely large share placements, the Australian mining markets received a further shot in the arm following the max-pected victory by the Liberals in the South Australis State elections.

Stocks with interests in the state came in for strong support, mainly from arbitrage operators Western Mining, whose Roxby Downs copper/uranium/gold project is situated in South Australia surged ahead with the shares finally 7 better on balance at 200p, after a 1979 high of

205p.
Among the more speculative issues, Ollmin were 16 up at 680, after a high of 70p following news of the link-up with the Bond corporation. Swar Resources were 8 firmer at 29p, and Eagle Corporation, 51 to the good at 23p. Elsewhere in Australians, the

coal producer Thiess Holdings rose 25 to 290p and the iron-ore miner Robe River put on 11 to

66p. BH South were a lone weak spot, however, as profit-taking left the shares 10 cheaper at

160p. South African Golds extended Friday's gains as the buildon price rose a further \$8.75 to a record closing leval of \$358.625 an ounce, after an all-time peak of \$354.25, in front of today's U.S. Treasury gold auction.
Trading in the shares was only

moderate, bowever. Prices were marked up at the outset reflect-

ing the latest surge in the hullon price but thereafter tended to hold steady.

Favourable weekend Press mention aided Marievale, 5 up at 121p, and Leslle, 3 hetter at a 1979 bigh of 971p. The Gold Mines index rose 2.7 to 207.7—its best level since early June, while the ex-premium index 4.2 np at 190.6, reached its highest since 190.6, reached its highest since September 10 1975. South African Pinancials were

broadly firmer in line with Golds. pathy, but aecondary issues succumbed to profit-taking, particularly 0il Exploration which gava up 10 to 338 awaiting the Interim results due tomorrow, Siebens (UK) reacted 6 to 272p and Burmah 3 to 163p, while Tricentro gave up 2 to 216p.

Activity in the Textile sector Trust, with interim figures due on Thursday, slipped 4 to 534p. Elsewhere, Minerco hardened 2 to 237p ahead of the unchanged final dividend, while Silvermines advanced 5 to 59p following the

72,48 79.73 71.94 75.14 78.48 75.60 78.54 Pixed Interest 72,69 75.11 467.7 467.8 472.1 477.4 475.0 465.0 industrial 905.0 194.8 199.5 199.3 199.5 187,9 207,7 Gold Mines. 186.4 174.6 177.0 176.9 177.4 190,6 Gold Mines(EX-5 pm) 5.99 6.95 6.99 700 Ord. Div. Yield 18.11 18.10 17.94 17.80 16.15 14.48 12.12 Earnings, Yld. 🛣 (full) 6.76 6.77 6.85 6.90 7,85 9,15 6.76 P/E Ratio (net) (*). ... 16,511 14,235 14,467 15,549 16,960 15,498 Total bergains 72.11 57.57 79.43 88.65 63.39 64.48 Equity turnover £m __ 10,739 11,411 12,752 15,269 11,962 19,422 Equity bargains total 10 em 486.7. 11 em 486.1. Noon 486.6. 1 pm 485.4. 2 pm 486.4. 3 pm 485.6. Labest Index 01-246 8028, •NII = 6.51. Base 100 Govt. Secs. 15/10/28. Fixed Int. 1928. Industrial Grd. 1/7/35. Gold Mines 2/5/55. Ex-8 pramium index started June, 1972. SE Activity July-Doc. 1942. S.E. ACTIVITY HIGHS AND LOWS

Since Compilat's High Low High Low 127.4 49.18 (3/1/85) (8/1/78) 64.64 75.91 150.4 50.55 (23/11/47) (5/1/75) 77.76 **e5.03**

442.5 48.5 (22/5/75) (26/19/71) 129,5 887.1 64.8 (8/4/70) (25/8/75) 186.4 96.9 (14/9) (12/1)

ACTIVE STOCKS

552.6 49.4 (4/6/75) (28/6/48)

558.5

208.4 (6/6)

445,1

Ð	eromm	- or	Clorms	Change.	1919	Tale
Stock		marks	price (p)	on day	high	low 334
horn Electrica	25p	10	426	- 7	482	-007
horn Electrica	. £1	9	1,190	+10	1,295	882
EC	25p	8	380	– 1	456	311
epworth Cerami	e		41		7pm	41pm
'New'	. Nil/p	4T 8	4}pn	. –	100	100
eecham	25p	7	143	- 1	189	120
urmah Oil	£1	7	163	- 3	168	130 82
Cald Field	25p	7	246	+ 2	268	178
ons. Gold Fields	05-	6	102		134	83
arks & Spencer	25p	~	102	. —	402	278
hell Transport	. 25D	7	333	+ 2		THE .
AT Inds		. 6	338 293	+ 4	362	253
idland Bank	£1	6	372 -	- 3	455	340
	~~	8	293	- 9	362	226
TZ	. 25p			+ 3	144	82
MI	50p	5	91		415	314
MI	. £1	5	352	– 2		
ate & Lyle	£1	5	144	_	188	127

OPTIONS

reported, while doubles were DEALING DATES completed in Cons. Gold and First Last Deal- Declara-Settleings ings tion ment sep. 3 Sep. 14 Dec. 6 Dec. 17 Sep. 17 Sep. 28 Dec. 20 Jan. 7 Oct. 1 Oct. 12 Jan. 10 Jan. 21

RISES AND FALLS YESTERDAY

				_
Totals		484	574	1,370
Others		76	75	55
			75	44
Plantati		72	2	14
	ar miter Liebe	9	18	75
	and Prop.	773	74	320
fordustr		177	339	893
	Dom. and		36	28
British		7	78	1
		_		

APPOINTMENTS

ICI Plastics deputy chairman

15

Mr. D. W. S. Beynon, head of the policy groups department of and Finance. Mr. Arturo C.F joined the hoard and Mr. Tennath have the policy groups department of and Finance. Mr. Arturo C.F joined the hoard and Mr. Tennath have the policy groups department of and Finance. Mr. Arturo C.F joined the hoard and Mr. Tennath have the policy groups department of and Finance. Mr. Arturo C.F joined the hoard and Mr. Tennath have the policy groups department of and Finance. Mr. Arturo C.F joined the hoard and Mr. Tennath have the policy groups department of and Finance. Mr. Arturo C.F joined the hoard and Mr. Tennath have the policy groups department of and Finance. Mr. Arturo C.F joined the hoard and Mr. Tennath have the policy groups department of and Finance. Mr. Arturo C.F joined the hoard and Mr. Tennath have the policy groups department of policy groups department of and Finance. Mr. Arturo C.F joined the hoard and Mr. Tennath have the policy groups department of policy groups department of and Finance. Mr. Arturo C.F joined the hoard and Mr. Tennath have the policy groups department of policy groups department of and Finance. Mr. Arturo C.F joined the hoard and Mr. Tennath have the policy groups department of and Finance. Mr. Arturo C.F joined the hoard and Mr. Tennath have the policy groups department of any finance. Mr. Mathicu bas joined Manufacturers will be no alteration in that any groups department of the policy g January, 1977, Mr. Beynon re-placed Mr. Hntchison as bead of policy group department when Mr. Hntchison left Millhank to become a deputy chairman of Plastics Division.

Mr. M. R. Ashford has been appointed a director and general manager of INNS-WORTH METALS, a Dowty Group Aerospace and Defenca Division company.

Mr. Brian Richman has been appointed to the board of DEBENHAMS. He joined the company in 1976 and is responsible for the huying of all non-textile merchandise within the department storea division.

Mr. R. Innes Vann bas been appointed to the Board of BOND STREET FABRICS. Mr. R. STREET FABRICS. Mr. R. Parsons has retired from the

Mr. T. D. O'Hearn has been elected executive vice-president, intercational, of the INTER-PUBLIC GROUP OF COMPANIES and Mr. C. K. Kroeber has become a senior vice-president.

Mrs. V. Davenport has been appointed a director of DAVEN-PORT KNITWEAR.

Mr. J. R. Naisb and Mr. J. K. Carson have ceased to be directors of CAIRD (DUNDEE).

On the acquisition of Brentoall Beard and Co., Mr. E. B. Beard, formerly chairman and Mr. A. Cashmore, who was managing director, have been appointed to the board of Hogg Robinsoo (UK) part of the HOGG ROBIN-SON GROUP. Mr. E. W. Bellinger, who held the positions of chairman and managing director of Brentnail Beard (Life and Pensions), has become a member of the hoard of Hogg Robinson (Benefit Consultants).

Mr. D. A. Howard, managing director of the rugs and furnish-ings division, and Mr. D. W. Mills, managing director of the Marks and Speucer account, have joined the hoard of E. FOGARTY AND CO. in addition to Mr. A. H. Holmes. who has been made financial director and continues

Dr. A. K. Vakil is to join the Manufacturers Hanover Group and will be appointed an executive director of MANUFACTURERS HANOVER LIMITED. During the past four years Dr. Vakil has been working with the Merseyside Chamber of Commerce and Industry.

It will not apply in cases where the marriage of the parents is still in being.

sentative in the Paris office at 20 Rue de la Ville-L'Eveque.

Mr. Norman Wilson, managing director of EFG (New Lands), a subsidiary of the Economic Forestry Group, has been elected national chairman of the BRITISH ASSOCIATION OF LANDSCAPE INDUSTRIES.

Mr. H. Ross bas heen appointed a director of LEOPOLD JOSEPH AND SONS from October 1, and Mr J. Titmuss will become an associata director. Mr. N. H. T. Bennett is retiring from the Board on that date.

Mr. Keith Eden has been appointed sales director of GOLDEN WONDER. He joined the company as national sales manager in November 1976 and was appointed general sales manager, and a member of the Board of Management, in September 1978.

To co-ordinate Seagram corporate policy within the UK, the board of SEAGRAM DISTIL-LERS LIMITED has been en-larged to represent all Seagram United Kingdom interests and senior management from the U.S.

and Canada. Mr. Melvin Griffin, Mr. Robin Lane, Mr. Ivan Straker

succeeding Mr. Peter Collins who has joined Massey-Ferguson, the parent company, in Toronto, Canada Mr. Beard joins Perkins from Triplex Safety Glass.

Mr Patrick D. Sinclair bas heen appointed marketing and business development manager of the BRITISH LINEN BANK. Ha was previously manager of the hank's Glasgow office.

at present on the beadquarters staff at Carpets Intercational in Kidderminster

AMALGAMATED CORPORATION bas appointed Mr. T. G. Lock as divisional managing director, industrial division, responsible to the group chief executive.

Plea for better caravan sites

CARAVAN PARK owners were urged yesterday to plough more of their profits hack into improving facilities and landscaping. Mr. Michael Montague, chair-

man of the English Tourist Board, told caravan manufacturers and site owners in Ferndown, Dorset, that the popularity of caravanning had been one of the most striking postwar trends in England's tourism with £240m heing spent on caravan holidays last year.

Prior visit

MR JAMES PRIOR, Secretary of State for Employment, will visit Merseyside today to review the region's unemployment problems with civic leaders, industrial and commercial spokesman and trade union officials. After visiting local factories Mr. Prior will lunch with the Margarial Chamber of the Margarial Chamber of the Margarian Chamber of the Chamber of the Chamber of the Margarian Chamber of the Cha

5 (18) President Stevn St. Helens Welkom Johannesburk Com. Falcom Eagle Com. Hampton Areas NEW HIGHS (52)

The following securities quoted in the Share Intermetion Service yesterday attained new Highs and Lows for 1879.

Grent Chemicals (1) STORES (2)

NEWSPAPERS (22) PROPERTY (3) SHOES (1)

Rasger Oil Ultramar 7pc Com. RUSSERS (1)

Mr. J. Bnekley, Mr. F. Polkey and Mr. J. F. Maclean have been appointed directors of JOHN SMEDLEY, of Matlock, Derbyshire. Mr. Buckley becomes director of management services and Mr. Polkey personnel director. Mr. Maclean, who has been made a non-executive director, is

Mr. Mike Dawson has been appointed production director of INTERNATIONAL PAINT at Felling-on-Tyne.

New hospital at Northampton

PLANS FOR a £11m private independent hospital Northampton were completed yesterday, and building work is expected to start this year.

The hospital for 30 patients was the idea of local residents and medical consultants, who believe there is an increased demand for private medical care. The hospital will be run as a non-profit making organisa-

Grandparents charter begins

The "Grannles Charter" that gives grandparents the right to spply to magistrates' courts for access to their grandchildren came into force yesterday. The charter will apply in cases where a custody order has been made in guardianship proceedings. It will not apply

NEW HIGHS AND LOWS FOR 1979

Kinress Lesife S African Land Winkelhaak F.S. Sappless

Home Charm

ELECTRICALS (2)

Telephone Rentals Wholesale Fitting
ENGINEERING (2)

Brasway

INDUSTRIALS (4)

Om Hidgs.

TRUSTS (3) West of England

CORPORATION LOANS (1) AICALS (1)

S S

ELECTRICALS (2)

Long Strong

ENGINEERING (17)

Thoryd. Lane (P.)

Northern Eng's

Serck.

Stuthert & Pitt

Sykes (1.)

Triplex FoundTube Invs. Novo Inde. Ars 8
ELECTRICALS (2) HOTELS (1) DUSTRIALS (4) Mersey Dodes Units TEXTILES (2) SHIPPING (1)

NEW LOWS (34)

RECENT ISSUES

EQUITIES 0 . 4 . 7

FIXED INTEREST STOCKS											
F.	00000	10/8	35	25	Arrow Chemicals Bartow Hidgs Mercantile House Mettoy Ifd. St. 0 eorge Assets10p Seitrust A. Soc.	23	1-11	59.0 72.6 20.7a	8.8 1.1 2.3 1.5	4.5 8.1 0.7	7.
rice pt	Pald L	Renund	19 High	Low	* Stock	Olasing Price pt	+ <u>o</u> r	Amaun	Davere	Aross Yield	P. E.

2 ES ES 1979

PE.	Pald	Ronu	High	Low	Stock	Prios					
91 52 64 7 7 7 7	£10 £10 F.P. F.P.	21/9 29/11 29/11	19 124 751e 901e 99	101p 13 83 70 86 95 974	Aurors 84 Conv. Cum. Pref. 2radford Prop. 101e% Cum. Pref. Eastbourns Waterworks 5% Rod. Pref. Essex Water 5% Rod Pref. 1954. Lonrho 9% End Mort. Deb. 87,82. Do. 121e% Snd Mort. Deb. 85-90. Do. 121e% Snd Mort. Deb. 80-85. Soot. Agricultural Sec. 13% Deb. 87-99. Stonehill 101e% Cum. Pri	84 107p 12 114 71s 894s 96s 98 (02pm	7 7 7				

"RIGHTS" OFFERS

Issus Price	d up		unc.	19	79	Stock	Olosing prices	+ 01	
pţ	PAR	Oute E		High	Low	enten.	Ş.	_	
14 110 A\$2 20 125 R1.20 115 23 30 110 115 40 A\$3 145 10	P.P. NIII NII P.P. P.P. P.P. P.P. P.P. P	4/9 38/9 28/9 21/9 20/8 2/10 5/9 14/9 28/9	19/10 12/10 21/9 15/11	130 64pm 13pm 24pm 138 7pm 43 139 147 10pm 18pm 94pm 224	195 37pm 91spm 17pm 124 41spm 36 120 1201s 9pm 165pm 76pm 193	Estates Property Inv F.V.G.LT	0pm 186 41pm 186 147 10pm 190pm 54pm 220	+2 +1 +2 -1	

Renunciation data usually tast day for dealing free of stamp duty. It Riguras based on prospectus estimate. g Assumed dividend and yield u Forecast dividend: cover based on previous year's samings. F Dividend and yield based on prospectus or other official estimates for 1979. Q Gross. T Figures assumed. ? Cover allows for conversion of shares not now ranking for dividend or staking only for restricted dividends. ? Placing price to public. p! Pance unless otherwise indicated. I Issued by tander. I Offered to holders of ordinary shares are a "rights." ** Issued by way of capitalisation. §§ Reintroduced. I Issued in connection with reorganisation, mergar of taksover. II introduced. I Issued to former preference holders. A Allotment latters for fully-paid). • Provisional or partly-paid ellotment letters. ** With warrants. †† Unifered security. ‡* Issued as units comprising 2 Income shares and 10 Capital shares at 125p per unit.

FT-ACTUARIES SHARE INDICES

For rate indications see end of

Share Information Service

Money was given for the call in Debenhams, Spillers, York-shire Chemicals, R. P. Martin,

Attock Oil, Aurora, Lonrho, Baker Perkins, Town and City, Gongh Cooper, Stylo, McCleery

L'Amie Allebone, Jentique, Century Oil, BPC, Cons. Gold

Fields, and KCA. No puts were

Deal-

These indices are the joint compilation of the Financial Times, the Institute of Actuaries and the Faculty of Actuaries

1 2 3 4 5 6 8 M GC CN W E F F N N P P S S T T T T T T T T T T T T T T T T	& SUB-SECTIONS In parentheses show mamber of stocks per section APITAL 600BS (172) wilding Materials (27) contracting, Construction (28) lectricals (25) notinecting Contractors (12) lectronical Engineering (74] lectast and Metal Forming(16) ORSUMER 600BS DURABLE (52) L. Electronics, Radio, TV (16] conseluid Goods (15) contracting Contractors (23) ONSUMER 600BS 60N-DURABLE (171) Fines and Spirits (6) nitertainment; Catering (17) cond Manufacturing (19) cond Retailing (15) consessagers, Publishing (12) consessagers, Publishing (12)	242.45 234.01 339.07 619.79 335.97 165.32 159.09 234.77 335.87 143.99 119.23 308.49 208.68 305.02	Day's Charge % -0.6 -0.3 -0.6 -0.5 -1.1 -0.2 -0.4 -0.6 -0.5 -0.5 -0.5 -0.6	Est. Earnings Yield % (Mar.1 17.72 17.27 23.52 21.3.12 21.28 20.26 19.67 15.66 12.08 19.75 24.27 16.56 15.78 16.53	5.93 5.85 5.74 3.75 7.20 7.05 9.42 5.23 4.13 7.58 7.60 6.01 5.31	7.24 7.50 5.30 10.19 5.88 6.27 6.32 8.01 10.69 6.22 5.00	Index No. 243.85 234.62 337.80 167.18 159.45 235.77 337.96 144.57 110.92	ledex No. 244.96 -235.75 392.86 529.85 338.73 167.44 159.58 238.86 342.78 145.93 111.32	index No. 247.05 236.03 334.82 633.45 335.11 160.78 242.15 348.79 146.71 111.97	209.82 237.47 394.40 644.74 172.13 161.99 247.67 358.49 148.96	16 22 40 57 38 20
2 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	utiding Materials (27) outracting, Construction (28) lestricals (25) lestricals (25) lestricals (25) lectricals (25) lectricals (26) lectricals Engineering (74] letals and Metal Forming(16) ONSYMER GOODS DURABLE (52) L. Electronics, Radio, TV (16] outschuld Goods (23) lotors and Distributors (23) ONSYMER GOODS	234.01 389.07 619.79 335.97 165.32 159.09 234.77 335.87 163.99 110.23 237.11 287.93 3318.49 208.68	-0.3 -0.6 -0.5 -0.5 -1.1 -0.2 -0.4 -0.4 -0.6 -0.3 -0.5	17.27 23.52 13.12 21.28 20.26 19.67 15.66 12.08 59.75 24.27 16.66 15.78 16.53	5.85 5.74 3.75 7.20 7.05 9.42 5.23 4.13 7.58 7.50 6.01	7.50 5.30 10.19 5.88 6.27 6.32 8.01 10.68 6.22 5.00	234.60, 391.26 622.82 337.80 167.18 159.45 235.77 337.86 144.57	·235.75 392.86 629.45 338.73 167.44 159.68 238.86 342.78 145.93	236.69 334.82 635.45 335.11 169.71 160.78 242.15 348.79 146.71	237.47 394.40 644.74 947.04 172.13 161.99 247.67 358.49 148.96	22 40 57 38 20 11
3 CELEMAN	outracting, Construction (28) lestricals (25) nephrecing Contractors (12) lectricals (25) lectricals (25) lectricals (25) lectropical Engineering (74] letals and Metal Forming(16) BNSUMER GOODS DURABLE) (50) Letteronics, Radio, TV (16] lossehold Goods (25) lossehold Goods (25) losses and Distributors (23) ONSUMER GOODS	389.07 619.79 335.97. 165.32 159.09 234.77 335.87 148.99 110.23 237.11 287.93 3318.89 208.68	-0.6 -0.5 -0.5 -0.1 -0.2 -0.4 -0.4 -0.6 -0.5	23.52 13.12 21.28 20.26 19.67 15.66 12.08 19.75 24.27 16.66 15.78 16.53	5.74 3.75 7.20 7.05 9.42 5.23 4.13 7.58 7.60	5.30 10.19 5.88 6.27 6.32 8.01 10.68 6.22 5.00	391.26 622.82 337.80 167.18 159.45 235.77 337.86 144.57	392.86 620.45 338.73 167.44 159.68 238.86 342.78 145.93	394,82 635,45 335,11 169,71 160,78 242,15 348,79 146,71	394.40 644.74 347.04 172.13 161.99 247.67 358.49 148.96	57 38 20 11
4 EEM M C C C C C C C C C C C C C C C C C	lestricals (25) ngineering Contractors (12) lechunical Engineering (74) letals and Metal Forming(16) ONSUMER GOODS DIRABLE) (52) Little Contractors (23) loters and Distributors (23) ONSUMER GOODS ON	619.79 335.97 165.32 159.09 234.77 335.87 143.99 110.23 237.11 267.93 331.83 308.49 208.68	-05 -05 -11 -02 -04 -04 -04 -06 -03 -05	13.12 21.28 20.26 19.67 15.66 12.08 59.75 24.27 16.66 15.78 16.53	3.75 7.20 7.05 9.42 5.23 4.13 7.58 7.60	10.19 5.88 6.27 6.32 8.01 10.68 6.22 5.00	622.82 337.80 167.18 159.45 235.77 337.86 144.57	628.45 338.73 167.44 159.68 238.86 342.78 145.93	633.45 335.11 169.71 160.78 242.15 348.79 146.71	644.74 347.64 172.13 161.99 247.67 358.49 148.96	57 38 20 11
5 6 6 MM CC (IN IN I	ngineering Contractors (12) lechanical Engineering (74] lechanical Engineering (74] lechanical Engineering (74] lechanical Engineering (16) lenstyMER GOODS DURABLE) (52) LElectronics, Radio, TV (16] lenstyMER GOODS ONSSYMEER GOODS ONSSYMEER GOODS SON-BURABLE) (17) reweries (14) fines and Spirits (6) lettrialisment (Catering (17) lenstyMedian (19) lend Manufacturing (19) lend Manufacturing (19) lend Retailing (15)	335.97 165.32 159.09 234.77 335.87 143.99 110.23 237.11 267.93 331.83 308.49 208.68	-05 -11 -02 -04 -04 -04 -06 -03 -05	21.28 20.26 19.67 15.66 12.08 19.75 24.27 16.66 15.78 16.53	7.20 7.05 9.42 5.23 4.13 7.58 7.60	5.88 6.27 6.32 8.01 10.68 6.22 5.00	337.80 167.18 159.45 295.77 337.06 144.57	338.73 167.44 159.68 238.86 342.78 145.93	335.11 169.71 160.78 242.15 348.79 146.71	947.64 172.13 161.99 247.67 358.49 148.96	38 20 33 33
66 MM MG CGG CGG CGG CGG CGG CGG CGG CGG C	lechanical Engineering (74] letals and Metal Forming(16) MNSUMER GOODS DURABLE (52) L. Electronics, Radio, TV (16] outsehold Goods (13) lotors and Distributors (23) MNSUMER GOODS KON-BURABLE (171) reweries (14) fines and Spirits (6) outsetaliument, Catering (17) bood Manufacturing (19) bood Retailing (15)	165.32 159.09 234.77 335.87 143.99 110.23 237.11 287.95 331.63 308.49 208.68	-11 -02 -04 -04 -04 -06 -03 -05	20.26 19.67 15.66 12.08 19.75 24.27 16.66 15.78 16.53	7.05 9.42 5.23 4.13 7.58 7.60	6.27 6.32 8.01 10.68 6.22 5.00	167.18 159.45 295.77 337.96 144.57	167.44 159.68 238.86 342.78 145.93	169.71 .160.78 242.15 348.79 146.71	172.13 161.99 247,67 358.49 148.96	20
8 MGC LL	letals and Metal Forming(16) ONSYMER GDODS DURRABLE) (52) L. Electronics, Radio, TV (16] ousehold Goods (15) otors and Distributors (23) ONSUMER GOODS ONSUMER GOODS ON-BURRABLE) (171) reweries (14) /ines and Spirits (6) othertalament; Catering (17) ood Manufacturing (19) ood Retailing (15)	159.09 234.77 335.87 143.99 110.23 237.11 287.93 331.83 308.49 208.68	-0.2 -0.4 -0.4 -0.6 -0.5	19.67 15.66 12.08 19.75 24.27 16.66 15.78 16.53	9,42 5,23 4,13 7,58 7,60	8.01 10.68 6.22 5.00	159.45 235.77 337.06 144.57	159.58 238.86 342.78 145.93	242.15 348.79 146.71	161.99 247,67 358.49 148.96	22
LI L	ORSUMER GOODS DIRABLE) (52) LICATORIOS, Radio, TV (16] LICATORIOS, Radio, TV (16] LICATORIOS, RADIo, TV (16] LICATORIOS L	234.77 335.87 143.99 110.23 237.11 287.93 331.83 308.49 208.68	-0.4 -0.4 -0.6 -0.5	15.66 12.08 19.75 24.27 16.66 15.78 16.53	5.23 4.13 7.58 7.60 6.01	8.01 10.68 6.22 5.00	235.77 337.96 144.57	238.86 342.78 145.93	242.15 348.79 146.71	247,67 358,49 148,96	Z
12 HM CINB WEF FRANCE TO CO P O ST	t. Electronics, Radio, TV (16] onseluid Goods (13). otors and Distributors (23)	335.87 143.99 110.23 237.11 287.93 331.83 308.49 208.68	-0.4 -0.4 -0.6 -0.3 -0.5	12.08 59.75 24.27 16.66 15.78 16.53	4.13 7.58 7.60 6.01	10.68 6.22 5.00	337.06 144.57	342.78 145.93	348.79 146.71	358.49 148.96	
13 Hi M CINB WELL FOR NAME TO THE TOTAL CO. P. C.	outschuld Goods (13) lotoss and Distributors (23)	143.99 110.23 237.11 287.93 331.83 308.49 208.68	-0.4 -0.6 -0.3 -0.5	19.75 24.27 16.66 15.78 16.53	7.58 7.60 6.01	6.22 5.00	144.57	145.93	146.71	148.96	
M CINB WE FE FOR NAME OF THE TOTAL OF T	others and Distributors (23) ONSUPPLER GOODS (10) FOWEVER GOODS (10) FOWEVER (14) Fines and Spirits (6) Ontertainment Catering (17) Oned Manufacturing (19) Ond Retailing (25)	237.11 287.93 331.83 308.49 208.68	-0.6 -0.3 -0.5	24.27 16.66 15.78 16.53	7.60 6.01	5.00					27
21 22 34 EF FN P S T T T T T T T T T T T T T T T T T T	ONSUMER GOODS KON-BURABLE) (171) reweries (1.4) fives and Spirits (6) ntertainment; Catering (17) ood Manufacturing (1.9) ood Retailing (1.5)	237.11 287.93 331.83 308.49 208.68	-0.3 -0.5	16.66 15.78 16.53	6.01		110.92	111.32	111.97	390	I
21 (N) 22 Br 22 W E E E E E E E E E E E E E E E E E	reweries (14) fines and Spirits (6) fines an	287.93 331.83 308.49 208.68	-0.5	15.78 16.53		7.47				113.18	E
23 WM E155 Fr. 25 Fr. 2	fines and Spirits (6) otertalnment; Catering (17) ood Manufacturing (19) ood Retailing (25)	331.83 308.49 208.68		16.53	5.31		237.53	238.38	240.11	242.46	2
24 E155 Fc 25 Fc 2	otertakunent, Catering (17) ood Manufacturing (19) ood Retailing (25)	308.49 208.68				7.56	289.37	289.06	291.68	294.00	Z
55 Feb. 18 18 18 18 18 18 18 18 18 18 18 18 18	ood Manufacturing (19) ood Retailing (25)	208.68	0.6		5.42	7.52	331.91	333.20	.333.50	337.45	1 2
86 Feb. Feb. Feb. Feb. Feb. Feb. Feb. Feb.	pod Retailing (25)			16.06	6.60	8.17	310.38	310.02	314.39	319.35	1 2
12 No. 15 15 15 15 15 15 15 15 15 15 15 15 15			+0.1	19.05	6.54	6.52	208.53	210.64	210.39	233.49	22
53 Ph 54 St 55 To 56 To 57 To 512 Ct 13 Ph 14 St	PROMORS, Publishing (12)		-0.5	13.36	4.20	9.02	306.47	307.69	309.28	312.03	23
34 St 35 Te 36 Te 37 Te 31 Of 32 Ct 33 Pt 44 St		426.94	-0.3	22,39	6.82	6.15	428.11	425.42	426.46	428.46	1 0
35 Te 36 Te 37 Te 11 07 12 Ct 13 Pt 14 0f 15 St	ackaging and Paper (15)	132.53	+0.6	22.28	8.45	5.78	131.69	130.62	132.04	131.36	15
16 To 17 To 12 Ct 13 Pt 14 Of 15 St	tores (41)	236.27 155.04	-0.8	12.50	4.41	10.48	238.29	239.56	241.50	243.67	2
7 To 12 Ct 13 Pt 14 Of 15 St	abacos (3)	245.99	+0.4	23.67 23.17	9.92	5.33	155.49	155.57	156.32	357.75	1
12 C1 13 Pt 14 Of 15 St	bys and Games (6)	71.23	+0.5	24.26	9.46	4.87 5.23	244.97	243.38	245.94	248.32	2
12 C2 13 Pt 14 Of 15 St	THER CROUPS (99)	205.33	-0.6	15.58	6.23	7.88	70.88 206.47	71.41	71.24	72.89	12
13 Pt 14 Of 15 St	bemicals (18)	287.35	-0.4	17.74	6.72	6.57	288.59	288.33	206.82	205.63	21 30
4 Of	harmaceutical Products (7)	228.13	-0.6	11.90	5.06	10.40	229.62	227.93	228.53	292.22	12
5 5	ffice Equipment (6)	120.86	-1.0	16.53	6.95	7.56	122.11	121.89	121.74	123.85	1 5
K M	hipping (10)	461.25	-0.4	11.50	6.50	11.10	463.09	462.71	463.06	45.47	1
	fiscellaneous (58)	242.61	-0.5	16.08	6.18	7.97	243.95	243.79	244.71	246.79	2
	IDUSTRIAL GROUP(494)	237.87	-0.5	16.60	5.98	7.54	238.96	239.55	241.29	243.92	2
	(s(6)	641.07	+0.7.	17.65	7.56	6.09	636.76	634.86	639.00	637.41	1 5
	O SHARE INDEX	270.59	03.	16.78	6.26	7.24	2/1.30	271.71	273.65	276.80	
	HANCIAL GROUP(116)	194.18	-0.4	_	5.46	_	195.05	193.49	193.63	194.62	Н
	mic(6)	222.68	-1.0	37.13	5.75	3.44	224.92	222.05	220,47	223.81	ī
	Scount Houses (10)	257.98	_	. —	7.12		257.98	257.27	259,45	259.65	Z
	ire Purchase (5)	172.53	+0.2	19.23	5.03	6.66	172.12	171.40	173.51	173.61	1
	Strance (Life) (10)	162.10	-0.6	_	6.27		163.03	162.50	162.89	364.99	14
	surance (Composite) (8)	127.87	-0.3	77.63	7.35		128.28	126:33	126.82	129.65	13
	erchant Banks (14)	283.94 101.34	+0.4	17.63	6.46	8.11	287.69	. 277.78	276.42	200.51	35
	roperty(43)				5.43		102.36	102.55	103,89	103.64	
		364.53 123.85	-0.2 -0.1	3.41	2,59	42.86	365.27	365.26	366.20	368.93	26
1 10	Kscellaneous (10)		+0.3	15.03	7.15	8.53	123.95	123.62	125.70	124.90	11
n M	lining Finance (4)	216.23			5.29		215.61	215.23	214.87	235,77	23
	rerseas Traders (20)	342.89	-15	15.44	5.86	7.94	139.96	128.68	131.62	133.19	11
9 4	ruscas (1646) 3 (49) 1	249.19		15.32	7.40 6.08	7.97	342.77	343.54	343.23 251.14	36.2	33

	FIXED INT	EREST P	rice iki	DICEZ		. Y	INTEREST IELDS L Av. Grass Red.	Mon., Sept. 17	FrL Sept_ 14	Year ago (appros.)	
	British Government	Mon., Sept. 17	Day's change	xd adj.	nd adi. 1979 to date	1 2 3	Low Coupons	5 years	10.16 10.55 18.16	10.06 10.64 21.64	10.57 10.57 11.54
ι !	Under Syears	104.79	-0.37 -0.59	_	6.66	4 5 6	Medium Coupons	5 years	12.40 12.44 12.48	12.24 12.33 12.41	11.65 12.67 12.08
	Over 15 years	121.61 133.22	-0.69 -2.04		9.65	7 8 9	High Coupons	5 years	12.76 12.92 12.80	12.64 12.81 12.69	11.57 12.68 12.79
ì	All stocks	113.49	-0.49		7.95	20	Irredeemable		11.10	10.97	11.78

Mon., Sept. 17 Fri. Thurs. Wed. Tuek. Sept. Sept. Sept. Sept. Sept. 13 12 11 10 15 20-yr. Red. Deb & Loans (15) 68.21 115.7e 58.55 68.55 68.50 58.75 58.75 58.85 58.76 67.55 12 Investment Trust Prefs. (15) 51.23 15.09 51.46 51.47 51.75 01.50 51.60 51.63 51.53 51.87 17 Coml. and Indl. Prefs, (20) 70.83 12.67 71.19 71.19 71.29 71.52 71.52 71.28 71.28 71.28

ption yield. Highs and lows record base da sues. A list of the constituents is svallable st. London, ECAP 4BY, price 14p, by post 22p.

MORE

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						Financial Times I	uesday Septemb	er 18 1979
Stewart Wrightson	FT SI	IARE	INFORM	ATION	SERVICE	1 Hgb 149 29	FOOD, GROCEF 106 Cartiers 20p 248 63 Cartiers 20p 248 63 Cartiers 20p 748 648 Os. "A" NIV 74	e Re. c YE YE YE
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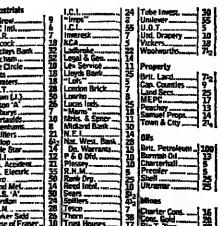
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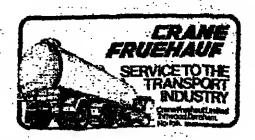
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25125544023	148 168 168 15 16 17 11 15 14 15	Hoosta Gold N.L. Hantgin Areas 5p. Metals Ex. 50c M.I.M. Hidgs. 50c Minefields Expl Mount Lyell 25c Newmetal 20c North 8. Hill50c Nth. Kalgurit Nth. Mineng Corp.	29875855 29875855 29875	+2 +5 +2 +1	55 827: 124:	28 + +	3.				
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A selection of Options traded is given on the Lundon Stock Exchange Report page



No need to modify EMS, say Ministers

BY GUY DE JONQUIERES, COMMON MARKET CORRESPONDENT, IN BRUSSELS

EEC FINANCE Ministers that any prolonged discussion foreign exchange markets, decided yesterday that the Euro of the mechanics of the EMS, He denied that there was any pean Monetary System was even if it did not involve a danger of an interest rate "war" functioning satisfactorily and shift in the exchanga rates of breaking out between the required no technical modifica-

They agreed, as a result, to end early the formal reviaw of the metsysb cowiaheaiol... the system which had been scheduled to take place six months after it was launched on

March 13 this year. z
The speed with which the
ministers reached this concinsion, after only a few minutea discussion, surprised observers in Brusels. Yesterday's meeting bad previously been intended merely to allow for an interim assessment of the system, pend-noteding a fr- scale review next the

participating currencies, could exchange markets.

According to M. Rene Monory, the French Economics Minister, yesterday's outcome reflected a general view at the meeting of the "Big Five" Finance Minis-ters in Paris last weekend. The meeting felt that the economies of the world's major industrial countries were proceeding aatisfactorily towards opnverg-

He said the ministers bad noted that the payments of all the major industrialised countries were moving back into affect the Government's plans decision appears balance, and that there was no to examine the possibility of to concern reason for any upheavals on the joining the system.

world's major economies.

All the participants at the weekend meeting had expressed and had agreed that the best way to fight it was through tight mnnetary policies.
In spite of the squeeze or

interest rates by the U.S. Federal Reserve Board, M. Monory forecast that the cur-

Sir Geoffrey Howe, Chancellor of the Exchequer, said after yesterday's meeting in Brussels that the decision to end the

studies Scottish site

106/2 85/4 Treasor.
106/2 an ethylene plant using gas from the North Sea as a feedstock. The company is believed to

Cromarty Petroleum, which is owned by the Daniel K. Ludwig organisation and already has planning permission to build an oil refinery at a Cromarty site

Petroleum thnught to be seeking a joint venture on the scheme. It is said to have offered its existing site to Dow in return for an interest in any ethylene plant

for using North Sea oil and a plant were built. gas as petrochemical feedstocks. The group is anxious to have one of these may be Hoechst, if demand increased.

Continued from Page 1

Sterling slide

moreover, some time off.
Tha unsettled British labour

scene has not belped, and the

result bas bene that some of

the speculative inflows of the

early sumer bave been with-

drawn and private-sector capital

has been switched overseas.

notably to repay fareign cur-

rency loans, following the eas-

ing of the exchange controls.

The authorities do not appear

worried about the consequent

fall in the rate especially as

some officials—and many indus-

trialists-were concerned about

the impact of the earlier rise in

the pound on the competitive position of British goods. There is a general commit-

belief that longer-term pres-sures, such as North Sea oil,

LONDON TRANSPORT bas reached agreement with the

three rail unions on Introducing

Weather

UK TODAY CLOUDY with rain in places becoming brighter with sunny intervals.

London, S.E., Cent., S. England

Cloudy with rain in places, sunny intervals. Max 19C (66F).

E. N. England, North Wales Becoming brighter and dry. Max 17C (63F).

t : . brighter intervals later. Max 18℃

E. Anglia, Midlands Cloudy, rain in places with

BY PHILIP BASSETT AND LYNTON MCLAIN

the near future; a decision is, pound relative to its previous

There is a general commit-closing high of \$3533 after ment to free floating and a reaching \$354 in the early

will underpin the rate.

However, the Government's rosa 32.35p to a new fixing peak tight monetary policy rests on the desirability of a strong closing at over 640p.

afternoon.

19C (66F)

(ax I7C (63F).

Channel Isles

Dry at first with sunny intervals. Temperatures near normal.

WORLDWIDE

lwcsti. L. York

of credit

Treasor.
Treasor.
Treasor.
Gas 3p.L., a major U.S.- access to its own supplies of tha German-based chemicals Exch.; group, is conmaterials such as ethylene—a giant. Hoechst, which is problement of products of the world's largest buyer of the control of the cont

np just over a year ago by a any other major we would be group of Scottish businessmen. interested in any development Its chairman is Sir John Toot- there.' hill, former main board directhere is a UK interest in any

trend, largely to help contain inflation. Consequently, if the

pound fell too far for a long

time the authorities might take

action, not necessarily through

intervention and possibly even

involving a further tightening

foreign exchange markets were yesterday quieter than at the end of last week with a slight

Otherwise, the main activity

was again in the gold and silver markets. There was further

strong demand for gold which

rose \$83 an ounce to an all-time

The spot price of silver

One-man Tube trains pact

one-man train operation on two

Underground lines.
London Transport said yes-

intervals, some rain later. Max

Cloudy, occasional rain or

S.W. England, S. Wales

drizzle. Hill and coastal fog becoming brighter. Max 18C

Borders, Edinburgh, Dundee, Aberdeen, Moray Firth, N.E.

Scattered showers, bright or

intervals. Max. 15C

Apart from sterling.

easing of strains within the

including plastics—rather than "would be interested in any baving to buy them in from source of reasonably priced other chemical companies." It stressed that it was Another company interested "not committed" to buying in Cromarty is Highland Hydro- ethylene from any future plant "not committed" to buying carbons, a British company set at Cromarty but said that "like

The German-based group would not confirm that it bad tor of Ferranti in Edinburgh. would not confirm that it bad The group is thought to be had discussions with Highland interested in ensuring that Hydrocarbons but admitted that "talked to companies like

petrocbemicals development at that."

Cromarty.

World scale plants usnally

It is thought that Highland have a capacity of 500,000

Hydrocarbons does not yet have tonnes a year and would cost Dow said yesterday that a site at Cromarty but it is around £400m. But there is at although it had "no specific understood to bave had discus- present considerable over-plans" for building an ethylene slons with several chemical capacity in ethylene in Europe. plant at Cromarty, it bad been companies which might be However, a smaller plant of looking at various opportunities interested in buying ethylene if between 250,000 tonnes and 300,000 tonnes might be built Industry reports suggest that first to be followed by a second

telex rentals

Riccardo seeks early retirement from Chrysler

BY JUREK MARTIN, U.S. EDITOR, IN WASHINGTON

man of Chrysler, announced in with a suspect heart condition Detroit yesterday that he will ask his Board of directors to grant him instant and early retirement so as to improve tha chances of the ailing car company securing substantial federal loan guarantees.

It is assumed be will be succeeded by Mr. Lee Iacocca, the company's president. Mr. Iacocca'a contract with Chrysler, it is understood, specifically stipulates that be should take over the company in November.

Mr. Riccardo's decision to seek early retirement comes immediately after the U.S. Government bad refused the company's first request for \$1.2bn in immediate and standby loan guarantees designed to stave off the threat of bank-

In his statement, he said that there was "no question that, even though I have actively addressed the major problems facing Chrysler, in the minds of many I am closely associated with the past management of a troubled company." troubled company."

"It would be most unfair to the new management and to the employees of Chrysler if my continued presence as board chairman should in any way hinder the final passage of our request for federal loan guarantees," be said.

Mr. Riccardo bas been company chairman for nearly four years and was, of course, a central figure in negotiations with the British Government some two years ago for financial assistance to support Chrysler's operations in the UK—facilities which, along with Chrysler's other European operations, the company subsequently sold to

It is true that, as cited in his statement, Mr. Riccardo has been suffering from ill health

MR. JOHN RICCARDO, chair- and was hospitalised last May He was reported to have offered to retire early a few weeks ago. Nevertheless, at the sam time there have been rports of dis content both inside Chrysler and the U.S. Government about the way in which Mr. Riccardo has been conducting negotia-tions with federal anthorities.

Mr. G. William Miller, tha Secretary of the Treasury, was dismissive about the inadequacy of the companya first request for aid over the weekend, both because it was felt Chrysler was asking far too much from the Government and because the company had not tried bard enough to generate support from other private sources. Mr. lacocca was hired by

Mr. lacocca was hired by Chrysler as president last year after being dismissed by the Ford Motor Company. At Ford it had appeared be was being groomed ultimately to succeed Mr. Henry Ford the Second as company chairman. At that time, Mr. Riccardo

said be expected that Mr. Iacocca would take over the company in about a sear—a promise for which Mr. Iacocca secred a contractual pledge.

Much of the retrenchment programme Chrysler had nnder taken in the past year bas been attributed to Mr. Iacocca—though it is also said that privately, be has complained that be was not previously aware of the gravity of Chrysler's financial and management position. What was not immediately clear yesterday was whether either the board of Chrysler or

the U.S. Government had put pressure on Mr. Riccardo to step down early so as to facilitate negotiations for federal assistance—or whether Mr. Riccardo took his action

voluntarily.

Chrysler told to look harder
for aid—Page 4.

night gold closed in London at \$353}. The Swiss banks hardly dare let Dresdner embarrass them a second time. **Spillers** The recent histories of Decca and Spillers underline some unsatisfactory

profoundly unsatisfactory aspects of the UK capital market. Shares in Decca, which has been in visible decline for aome years, bounded ahead on bid rumours yesterders, and are now above the day, and are now above the level at which they stood last week when the grim trading figures were announced. In a grotesque way, losses have turned nut to be "good news" hecause they have increased the chances of an opportunistic takeover bid.

Treasury gold auction, a month

ago, the gold price closed in

Snillers is already facing just such a bid. Its abareholders have stand by without comment while the group has contracted in real terms over a period of vears. Without a blush, the management which substantinosure to the baking Industry by a takenver in 1972 is able to imply that the closure of the entire haking business six vears later was a tactical victory. There is no snegestion in the defence document that the nroblems of recent veats have brought about any fundaimprovements Spillers' organisation.

But although there is good reason to be distillusioned with Snillers, there is little sign of any enthusiasm for the Daluete offer. Dalgety's own shareholders have been uneasy about the move, and Snillers' shares stand nearly a tenth below the value of the offer. Dalgety has expanded at a sectic pace in recent years, and although it can point to some sound achievements in the UK. It is than £3m lost, with the chance to adopt a more normal snape of some recovery, the final net of some sound achievements in the UK. It is by no means clear that it has enough surplus management talent to take on Spillers. And the bid is not startlingly generous: Spillers' shares are already on a double four divisors than £3m lost, with the chance to face recovery, the final net with one year rates edging bigher. Meanwhile, any punters still left in the gilt-edged market are saddled with heavy carrying costs—three month money is yielding 1 per cent more than the yield on high coupon short and long dated spillers. dend yield, and would probably not fall all that far in the absence of an offer.

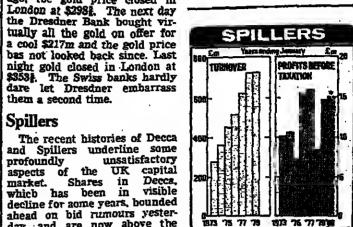
So shareholders are now in a position of baving to decide between uninspiring alterna-Will Fred the flour grader plus the inartia of

make the grade

Index fell 1.7 to 466.0

THE LEX COLUMN

How Fred failed to



tutional) win the day? It seems a pretty odd way to decide the date of an important business

At least there need be no great burry to decide by the first closing day on Friday. Dalgety is not going to give up easily especially with its easily especially with its advisers, Lazards, on the hook, if the last few years, it can be persuaded to they yield a prospective 6 per improve its terms a little. It cent and trade on 10 times fully taxed earnings.

if Dalgety's own shareholders have anything in say on the subject at their special meeting next Monday. But unless Spillers can produce a more convincing defence than it has so far, in the end it will probably be best to accept

United Biscuits

The most surprising feature of United Biscuits' interim results, which with a fall in pre-tax profits to £16.1m from £18.6m are a little on tha low ide, is that Sir Hector Laing, UB's chairman and the sconrge of the secondary pickets, had under rather than over-estimated the effect of the haulage strike on profits, Rather than £3m lost, with the chance

already on a double figure divi- second quarter. The depletion of stocks goes some way towards explaining the higher tax charge and lower interest costs -UB's cash was piling up, and fixed asset spending was falling bebind plans of £50m for 1979. But even adding back this

dull, particularly as there was a first-time contribution of fim or so from the Pizzaland chain. UK biscult volume was down during the period, but UB claims its market share—at least in branded biscuits—held steady despite Associated Biscults volume gains. The snack food side was besithy but Wimpy and the frozen fond business are still contributing very little.

The second half should abow a useful improvement; the company is looking in match last year's 1422m, and perhaps expects more. The weakness in snack and chocolate biscuit sales immediately after the VAT increase has abated, and, with the Spanish business now making small profits the fin loss in Europe in 1978 may be oliminated. But unless sterling eliminated. But unless sterlincontinues to fall, the use of average exchange rates will mean a further dent in Rechler's sterling contribution

The shares, though, are still looking to 1980 and beyond when UB should enjoy the payoff from the heavy investments

Gilt-edged Once again the gilt-edged market was lo a nervous mood

yesterday. The pound, having briefly touched \$2.16 in the morning, fell quickly to \$2.1260 before recovering to \$2.1515. Prices of long dated stock closed £ lower and the market hadly needs some good news If interest in the stranded tap stocks is going to be revived The combination of rising U.S. interest rates and the worrying buoyancy of UK bank lending means that hopes of an early cut in Minimum Lending Rate are fast receding. Already there are signs that the money market yield curve is beginning to adopt a more normal shape

awaited with some trepidation by the market. The eupboria over sterling's role as a petrocurrency has vanished as the market has digested the fact that far from boasting a balance. grader plus the inartia of £34m, and £0.8m for currency of payments surplus, Brita 35,000 shareholders (only about adjustment to the profits of will be in deficit this year, a 30 per cent of which are insti- Keeblers (which had a good, probably next year as well. of payments surplus, Britain will be in deficit this year, and

. Today's trade figures are

stock.

GKN in talks with Continued from Page 1 Telephones French Unilever from between 25 and 50 per · Coin box charges will go up

BY JAMES BARTHOLOMEW

from 2p to 5p, but the time allowed for local calls will increase from two to three minutes, whila time for trunk around 80 per cent-in Unigep, a French distributor of antocalls will also be extended in proportion. motive and industrial com-The Post Office expects to

gain £78m in the current financial year from the second stage increases, with additional £414m expected in 1980/81. Taken together, the corporation expects to benefit by £92m in 1979/80 and £495m in 1980/81

The total is 12.5 per cent of the telecommunications business, current revenues, which compares with a 60 per cent rise in the retail price index since October 1975, when major increases were last made. The corporation has faced increases in pay and other costs of some £300m in 1979/80

and a further £500m in 1980/81

terday that the agreement on

single-manning of manually-operated trains would reduce the number of last-minute can-

cellations, often caused by one of the two-man crew of driver

Trains operated by one man alone will begin running on the

Circle Line and the Hammersmith and City aection of the Metropolitan Line early next

year, though if both manage-ment and unions judge tha experiment a success one-man

operation should spread next to the District Line and the rest

of the Metropolitan Line, and

eventually to all.

The effect of the agreement

on staff, particularly on promo-tion prospects, will be reviewed

by the unions in six months.

London Transport bas pressed

for one-man operation since

1968. A fresb impetus toward

it came this year as part of a

pay award by an arbitratino

panel set up after the National

Union of Railwaymen, the larg-

est union involved, callad an indefinite strike by its 15,000

Under the agreement all one-

man operators receive the sama

rate of pay as automatic train

operators on the Victoria Line, £89.42 for a 40-hour week. Tube

drivers now are paid £77.71, and guards qualified as drivers £62.72.

London Transport put the

cost of this payment at more

than film a year, though it

claimed this would be offset by

manpower savings from one-man News Analysis, Page 6

Tube members.

and guard being ill.

GUEST KEEN and Nettlefolds is negotiating with Unilever to buy a majority stake-possibly

The move would be a further stage in GKN's recent series of moves into the automotive parts distribution business, giving it its first Continental involvement in this field. Unigep, with 1978 sales of

£30m, employs 750 people and has 26 outlets fairly evenly spread through France. Its profit level has not been dis-closed, and there were no indications yesterday aa to bow much GKN was proposing to pay for its projected stake in the company.

which has an annual turnover

distribution business.

In May the group made an agreed £40m bid for Sbeephridge Engineering, Derbyshire, the diesel components the business.

the business.

Unliever may not sell its entire bolding, and there are some small shareholders in the company.

In February GKN bought

of \$100m (£46.5m) and ia No. 4 the U.S. automotive parts

company which also has automotive parts distribution bran-Last month GKN said it was talking with Armstrong Equip-

ment about buying some of its antomotive parts distribution subsidiaries. Bebind GKN's major run of equisitions in automotive parts

distribution this year is the company's belief that, with car owners now tending to keep their vehicles lunger, and thus needing more spare parts, it can secure considerable growth The moves fit in with GKN's

manufacturing activities, giving it more outlets for the replacement components it makes. Unilever explained the intended sale yesterday by saying it had not been deeply committed to automotive parts distri-Industries Corporation, bution, and felt that the market was getting more difficult. Unigep made more sense as part of a group specialising in

CASS microprocessor telephone systems at an installed cost of LESS THAN £1 per week per extension Your next internal telephone system

Community to act on bearing dumping

THE EEC Commission is premanufacturers of bearings, and is also to bring a case against East European manufacturers.

The move follows intensive monitoring of bearing prices in western Europe by the Federa-tion of European Bearings Manufacturers' Associations, which claims that Japanese roller bearings coming into tha EEC last year were more than 35 per cent cheaper than in the Japanese market.

In March, the European Court ruled in favour of five Japanese companies which had been the subject of an earlier EEC anti-dumping case on bearings.

mated £2.5m in levies on the companies (even though the levies were subsequently suspended), when the Japanese companies had already agreed to raisa their prices by 20 per displaying the standard bearings coming from eastern Europe at prices which the industry maintains constitute dumping has increased

European paring to bring a new case of industry bas suffered from dumping against Japanese difficult trading conditions for several years, which has led to extensive rationalisation in most of the manufacturing countries. In the Past few months there have been signs of an improvement, bowever, both in demand patterns and the pricing policies of the leading manufacturers. SKF, the Swedish-based inter-

national group, recently announced an increase in profit margins on bearigs from 2.9 per cent to 3.8 per cent in the first balf of this year. FEBMA continues to argue,

bowever, that the increase in the price of Japanesa bearings in western Europe has not reflected the appreciation of the yen. It maintains that the dump The Court decided that the ing margin is even greater than EEC Council of Ministers was in 1977 when the Commission imposed a suspended anti-dumping duty.

significantly.

BY HAZEL DUFFY, INDUSTRIAL CORRESPONDENT will have to last your company the next

wrong to have imposed an esti-

the possibilities. The Cass system is a new generation of microprocessor based telephones offering major advances on even the most modern internal PAX system. It is ideal for networks of anything from 40

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